Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act	)	GN Docket No. 09-47
	)	
A National Broadband Plan for our Future	)	GN Docket No. 09-51
	)	
Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act	)	GN Docket No. 09-137
	)	
Special Access Rates for Price Cap Local Exchange Carriers	)	WC Docket No. 05-25
	)	
AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services	)	RM-10593
	)	
Policies and Rules Governing Retirement of Copper Loops By Incumbent Local Exchange Carriers	)	RM-11358 (consolidated)
	)	
Petition of XO Communications, LLC, Covad Communications Group, Inc., NuVox Communications and Eschelon Telecom, Inc. For a Rulemaking to Amend Certain Part 51 Rules Applicable to Incumbent LEC Retirements of Copper Loops and Copper Subloops	)	

COMMENTS IN RESPONSE TO
NBP PUBLIC NOTICE #11

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SUMMARY

The Joint CLECs welcome the Commission's focus in this inquiry on the middle mile transport market and the so-called second mile market. The record in this proceeding is clear that inefficiencies and barriers to entry in these markets can undermine the objectives of affordable and ubiquitous broadband services for end users, and the Commission should consider how competition and changes in certain regulatory policies that have stymied the development of competitive markets can better serve these broadband objectives.

The Joint CLECs agree with the Commission's observation that even if middle mile broadband access is available, which is often not the case, investment in, and end user demand for, broadband will be deterred if middle mile transport is "prohibitively expensive."[1] In particular, if the prices charged by dominant carriers remain high, and if last mile service providers and middle mile competitors are compelled through the anticompetitive terms of discount plans and other means to purchase higher-priced special access services in lieu of UNEs and more competitively priced services, providers will need to pass such higher costs along to consumers in the form of higher retail broadband prices.

The Commission should also explore ways to make more efficient use of existing plant. For example, the premature retirement of copper loops and the Commission's existing caps on unbundled network elements are impeding the deployment of innovative broadband services. The goal of affordable and more widely available broadband services would be better served by allowing carriers to leverage existing plant, rather than rewarding incumbents who take those useful assets out of commission and forcing competitors to expend scarce capital (if they can) to support middle mile and last mile deployment. Thus, as part of the National Broadband Plan, we

[1] *Rural Broadband Report*, ¶ 114.

propose that the Commission consider a moratorium on the retirement of copper loops by all ILECs and a requirement that they provide competitors with unbundled access to hybrid fiber/copper. In addition, open access on reasonable terms to the local loop must be a core component of the National Broadband Plan. As the draft Berkman Study found, such open access policies played a critical role in the first generation transition to broadband in the countries that have been the most successful in developing a ubiquitous broadband network and can facilitate the Commission's broadband goals here in the U.S.

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COMMENTS IN RESPONSE TO
NBP PUBLIC NOTICE #11

NEW EDGE NETWORK, INC.,
TDS METROCOM, LLC, PAETEC COMMUNICATIONS, INC. AND
U.S. TELEPACIFIC CORP. AND MPOWER COMUNICATIONS CORP. BOTH D/B/A
TELEPACIFIC COMMUNICATIONS

New Edge Network, Inc. ("New Edge"), TDS Metrocom, LLC ("TDS"), PAETEC Communications, Inc. ("PAETEC"), and U.S. TelePacific Corporation and Mpower Communications Corp, both d/b/a TelePacific Communications ("TelePacific") ("collectively the "Joint CLECs"), respectfully file these comments for inclusion in the above-referenced dockets regarding the development of a National Broadband Plan[2] by the Federal Communication Commission (the "Commission"), as mandated by the American Recovery and Reinvestment Act of 2009 ("Recovery Act").[3] These Comments respond to the Commission's NBP Public Notice No. 11 and adhere to the organization and structure of the questions in the Public Notice as requested by the Commission.[4] Accordingly, we have used the Commission's paragraph numbering scheme to identify the questions in the Public Notice that we are addressing and have repeated the relevant questions in bold type prior to our comments on the issues presented.

1. Network Components of Broadband Connectivity

1.(a). On a per-end user connection basis, how much middle mile capacity is needed to provide adequate broadband Internet access to that end user connection? How does the needed capacity for middle mile connectivity vary by the number of customers or usage characteristics of the customer base in a particular location?

[2] *See In the Matter of National Broadband Plan for Our Future*, Notice of Inquiry, GN Docket No. 09-51, Notice of Inquiry, 24 FCC Rcd. 4342 (rel. Apr. 8, 2009) ("Broadband Plan NOI").

[3] American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009) ("Recovery Act").

[4] *Comment Sought on Impact of Middle and Second Mile Access on Broadband Availability and Deployment*, NBP Public Notice No. 11, GN Docket Nos. 09-47, 09-51, 09-137, DA 09-2186, at 8 (rel. Oct. 8, 2009) ("Public Notice"). These Comments are also being filed as *ex parte* communications in several other Commission proceedings as shown above to the extent that the subject matter discussed herein addresses issues under consideration in these other dockets.

The amount of aggregate bandwidth consumed by end users will continue to increase rapidly through the introduction into the market, or in some instances broader adoption, of advanced applications such as telemedicine, distance learning, high-fidelity gaming, other as yet unforeseen applications that require high definition video, and capacity-sensitive activities such as telecommuting and home-based entrepreneurship.[5] High definition video uses an order of magnitude more bandwidth than the standard video or audio of today. Level 3 has noted that the "bandwidth required for HD TV is 4,000 times a standard email and 63 times the bandwidth of a music file."[6] As the aggregate bandwidth required by end users expands, it will be increasingly necessary for the middle mile to migrate to fiber optic technologies. If the capacity of the middle mile transport network does not keep pace with rapidly growing end user demand, "the transmission speed on otherwise adequate last-mile broadband facilities [will] come to a crawl or stall before the data reach the Internet backbone."[7] Moreover, without adequate capacity more rural underserved and unserved communities will have little opportunity to attract "anchor" businesses which spur economic development.

As noted in the Commission's *Rural Broadband Report*, "even when the last-mile provider acquires access to adequate middle-mile facilities, that access may be prohibitively expensive."[8] Indeed, while an entirely new build can be cost prohibitive in many cases, it can also be quite difficult to make a business case for broadband deployment to establish the "on- and off-ramps" for that middle mile facility that are needed to reach the Internet. For example,

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5 *See, e.g.,* Comments of TDS Telecommunications Corp., GN Docket No. 09-51, at 1, 3 n.2 (June 9, 2009) ("TDS Comments") (15 Mbps may be required to view a single HD video stream).

6 Comments of Level 3 Communications, LLC, GN Docket No. 09-51, at 8 (June 8, 2009); *See, also*, FCC Staff Report, at 23-25 (Sept. 29, 2009).

7 FCC Chairman Michael J. Copps, *Bringing Broadband to Rural America: Report on Rural Broadband Strategy*, ¶ 114 (May 22, 2009) ("*Rural Broadband Report*").

8 *Id*. at ¶ 114.

one of the Joint CLECs notes that the construction of fiber "on and off ramps" to serve promising agri-businesses and other previously underserved end users in more outlying areas cost the CLEC more than $500,000 per on/off ramp. Thus, as discussed further below, the high costs of constructing fiber access points, even where existing long-haul fiber may pass relatively near a targeted lower-tier city or town, combined with the relatively high rates of return needed in today's tight credit markets to justify investment, are often driving factors in analyzing the business case for broadband deployment. Far too often the business case does not support broadband deployment to serve agri-businesses and other small and medium-sized enterprises in light of these factors. Moreover, small and medium sized businesses require substantially greater bandwidth than residential end users, resulting in even greater demand for high capacity middle mile transport. Thus, the middle mile will require continued investment in fiber and "enabled" copper using Ethernet and other technologies to support the burgeoning bandwidth demands of these enterprises.

1.(c). What are the technology options for providing adequate middle mile connectivity for the next 5-10 years? To what extent are these technologies available in rural or unserved portions of the country? Please explain how the cost and bandwidth capacity of each technology option compares to other technology options and how those factors relate to projected demand for second mile connectivity in different areas of the country, both rural and urban.

There appears to be general agreement among parties in this proceeding that the use of fiber for middle mile transport represents a particularly effective means to "future proof" those facilities.[9] In particular, equipment on the ends of the fiber can easily be upgraded to

[9] "I know a lot of the middle mile buildout that people are contemplating now has to do with fiber infrastructure. And once you do that you give yourself quite a bit of time. You've slightly future-proofed the world if you do fiber buildout. Because . . . you can light up more lambdas and maybe somebody can figure out how to squeeze more lambdas into the fiber. And if you look at the way we're milking the fiber base today that we built during the exuberance of the last dot-com event, we're doing a pretty good job of milking that fiber." Statement of David D. Clark, MIT Computer Science and Artificial Intelligence Laboratory, National Broadband Plan

accommodate future processing advancements, making fiber an easily upgradeable cornerstone technology: "we need broadband technology that scales the same way the rest of the silicon does and is future proof, and fiber is one of the technologies today and it's important to get it as deep to the end user," as possible.[10] Assuming that broadband traffic will continue to increase as a result of increasingly attractive applications and as the Commission's efforts to promote ubiquitous and affordable broadband take greater hold, it is critical that the middle mile infrastructure be capable of accommodating such growth at affordable prices.

For example, in 2006, an article reported a Tellabs estimate that 2G networks would generate backhaul requirements of 5 to 7 Mbps per cell tower site -- an amount translating to approximately 5 to 7 T-1s per site. That article also warned of the "bandwidth boost" coming via 3G, and it also noted that 90% of the 80,000 cell towers in the U.S. were served only by copper backhaul.[11] Another recent study by Visant Strategies concluded that as carriers deploy WIMAX and other new technologies, they will need to increase the "capacity of backhaul to these base stations by a factor of two to three times." The study projected that "base stations employing 18 Mbps or more of backhaul capacity will grow from 10% in 2008 to over 50% in 2014," and the expected deployment of LTE in 2012 "could push the needed backhaul capacity beyond 50 Mbps further down the road." Finally, the study predicted that "backhaul capacity increases will push backhaul costs up seven per cent annually through 2014."[12]

Workshops, Big Ideas With Potential To Substantially Change the Internet, at 49-50 (Sept. 3, 2009); see, also, FCC Staff Report, at 36-38 (Sept. 29, 2009).

[10] Statement of Anoop Gupta, Corporate Vice President, Technology Policy and Strategy, Microsoft, National Broadband Plan Workshops, Technology/Applications and Devices, at 8-9 (Aug. 27, 2009).

[11] Telephony Online, June 5, 2006 "Battle for the Middle Mile" (available at: http://telephonyonline.com/mag/telecom_battle_middle_mile).

[12] Larry Swasey, Visant Strategies, *Backhaul Challenges for US Mobile Operators Throughout Network*, at 1.

Progress has certainly been made in the past several years to deploy fiber to more of these towers -- but as the Commission is well aware, many providers also applied for stimulus funds to support yet further deployment of this kind, indicating that there are still substantial gaps to be filled and cases in which cell tower operators likely have the choice of only one provider (who may still offer only copper to the tower) for backhaul options. Such a situation -- where an incumbent has copper (*i.e.*, special access) to a location where it faces no competition -- is most likely to generate higher costs and inefficient service. Moreover, at least one provider has estimated that there will be more than 280,000 cell sites by 2012, with 225,000 of those offering 3G or 4G services.[13] CTIA estimates that as of June 2009 there already were approximately 246,000 cell sites in the U.S. resulting from an 11.5% growth rate.[14] As part of the National Broadband Plan, to accommodate for growth even approaching such estimates at rates that keep middle mile costs affordable, the Commission should investigate where monopoly logjams exist to cell tower sites (and, for that matter, to any and all other locations where broadband could be enabled), and then consider policies that would break apart these logjams and promote more affordable services to these locations.[15]

This is particularly true when one considers the multiple T-1s or DS-3s that would be required to serve a 3G or 4G deployment at a cell site. If a competitor is locked into special access rates that the incumbent local exchange carrier ("ILEC") charges, the end user customer may have little reason to take service from a competitor. By contrast, if a competitor can obtain access to T-1s or DS-3s at TELRIC-based unbundled network element ("UNE") rates and then

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[13] Covad Ex Parte, Docket No. 09-51, at 6, Oct. 13, 2009; *see also CTIA's Semi-Annual Wireless Industry Survey, Mid-Year 2009 Top Line Survey Results*, at 9 (2009), available at: http://files.ctia.org/pdf/CTIA_Survey_Midyear_2009_Graphics.pdf ("CTIA Survey").

[14] CTIA Survey, at 9.

[15] *See, e.g. id.* (explaining the benefits of permitting unbundled network elements to be used for backhaul of mobile services).

enable those facilities for innovative services such as Ethernet over Copper, the customer -- and ultimately the end user -- would benefit tremendously by obtaining much greater capacity at lower prices. Particularly for those sites where fiber installation may be difficult to justify for some time to come, the Commission should view such an approach as critical to its National Broadband Plan.

Indeed, despite its relative efficiency and ability to scale, the substantial capital costs of deploying middle mile fiber can make it difficult to deliver to less densely populated or more distant areas -- *even if the fiber runs through or close to those areas*. For example, Level 3 has previously provided some indication in this proceeding that, absent stimulus funds or some other apparent policy shift or additional financial incentive, it has already opened on its existing fiber routes all of the "access points" it can justify from an economic perspective.[16] Covad has likewise estimated that less than 5% of cell sites today have fiber running to them.[17] Thus, while fiber may offer the most long-term promise as an efficient technology in the middle mile, it cannot form the sole focus or exclusive reliance of the Commission's National Broadband Plan, and the Commission should also take affirmative steps in the interim to ensure that the industry can make the most efficient and effective use of existing network assets (such as copper) in the interim.

As the Commission has noted, even if middle mile broadband access is available, investment in, and end user demand for, broadband will be deterred if middle mile transport is

[16] Level 3 Ex Parte, Docket No 09-51, et al. Sept. 17, 2009. Unfortunately, Level 3 did not provide specific data as to what degree it was deterred from opening such access points, or what the "tipping point" would be from a cost and potential revenue perspective to justify it opening any given access point.

[17] Covad Ex Parte Oct. 13, 2009 in Docket No. 09-51 at 6.

"prohibitively expensive."[18] Although it will be the subject of upcoming comments in response to another Public Notice, the recently released draft study by the Berkman Center for Internet & Society (the "Berkman Study") provides good insight into one promising avenue for controlling such costs. In particular, the Berkman Study found that sound and proactive competition policies can be highly effective in driving down the cost of broadband for (and thus promoting adoption by) retail subscribers. For example, in the United Kingdom after the regulator forced British Telecom to undertake functional separation, broadband prices fell by over 16% each year between 2006 and 2008.[19] More broadly, the Berkman Study analyzed pricing at the company level for high speed Internet services offered by developed countries and found that the "highest prices for the lowest speeds are overwhelmingly offered by firms in the United States and Canada, all which inhabit markets structured around" a duopoly.[20]

In fact, the Berkman Study shows that the U.S. incumbent providers, including AT&T, Verizon, Qwest, Comcast, Charter, Time Warner, and Cox, offer the highest prices for high speed broadband services as compared to providers in other OECD countries.[21] By contrast, the high-speed, low-priced offerings could be found more prevalently in those nations where competitive providers could access key segments of dominant networks and use those elements in delivering broadband offerings to end users. Overall, the "lowest prices and highest speeds are almost all offered by firms in markets where, in addition to an incumbent telephone company and a cable company, there are also competitors who entered the market and built their presence,

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[18] *Rural Broadband Report*, ¶ 114.

[19] Harvard University, The Berkman Center for Internet & Society, *Next Generation Connectivity: A review of broadband Internet transitions and policy from around the world*, at 79 (Oct. 2009) ("Berkman Study").

[20] *Id.*, at 12, 112.

[21] *Id.*, at 112-114, Figure 4.2.

through the use of open facilities."[22] Indeed, the case studies indicate that unbundling-based providers such as Free, SFR, Softbank, and KDDI, have had a catalytic role that forced incumbents such as NTT and France Telecom to offer more competitive services.[23] Finally, the Study found that "in countries where an engaged regulator enforced open access obligations [such as unbundling], competitors that entered using these open access facilities provided an important catalyst for the development of robust competition, which in most cases, contributed to strong broadband performance across a range of metrics."[24]

Thus, the Commission's objectives with respect to middle mile transport should be several-fold -- identifying ways in which to support (whether through financial programs or regulatory policy) a migration over time to the most efficient middle mile transport facilities possible (fiber), while also: (a) ensuring that efficient use of copper plant continues where it exists (and will remain for some time to come); and (b) ensuring that, regardless of the kind of plant that may be used to serve them, consumers can receive the benefits of competition in both the retail *and* wholesale markets for broadband-related services.

1.(d). What are the technology options for providing adequate second mile connectivity for the next 5-10 years? To what extent are these technologies available in rural or unserved portions of the country? Please explain how the cost and bandwidth capacity of each technology option compares to other technology options and how those factors relate to projected demand for second mile connectivity in different areas of the country, both rural and urban.

As discussed above in the case of middle mile transport, fiber may represent the most promising "future proof" broadband technology in the so-called "second mile" in an era of

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[22] *Id.*, at 12.

[23] *Id.*, at 63, 113.

[24] *Id.*, at 12.

rapidly rising bandwidth demands.[25] However, as in the middle mile, the availability and affordability of copper wire loop and hybrid copper/fiber plant in the "second mile"/last mile will likewise remain essential to assuring an economically viable transition path to achieving ubiquitous and affordable deployment of high-speed broadband.

Before proceeding to a substantive discussion of the technological issues, the Joint CLECs must voice concern with respect to the new concept of "second mile transport" as referenced in the Public Notice. The Public Notice defines the terms "second mile transport" and "middle mile transport" in a manner that divides the notional wireline network architecture from the Internet Gateway or point of presence to the end-user into three major components: "middle mile transport;"[26] "second mile transport;" and the "last mile." In the wireline context, it defines "second mile transport" as the transport and transmission of data communications from the first point of aggregation (*e.g.* the remote terminal) to the point of connection with the middle mile transport (*e.g.*, the central office).

"Second mile" is not a term that has been commonly used in the industry to date, and as the diagrams in the Public Notice themselves demonstrate, what has been referred to here as "second mile" is really nothing more than a critical component of the "last mile" -- the local loop that remains a bottleneck in many wireline networks. While it is true that in a mobile services context (the last diagram depicted in the Public Notice), the mobile service provider typically might not self-provide the "second mile" as shown in that diagram, and thus in that limited

25 *See, e.g.*, TDS Comments, at 4 10-11.

26 "To avoid confusion in this Public Notice, 'middle mile transport' refers generally to the transport and transmission of data communications from the central office, cable headend, or wireless switching station to an Internet point of presence." Public Notice, at 1.

scenario one *might* consider that particular component to be transport,[27] the other diagrams for traditional telephone and cable networks confirm that the so-called "second mile" is in fact nothing more than part and parcel of the local loop that is controlled in nearly every case by the owner of the central office and the "last mile" between which it resides. This novel division of the local loop is particularly inappropriate for the wireline broadband market. Competitive broadband providers must access *the entire loop* from the central office to the customer premises through leasing of unbundled local loops or increasingly expensive ILEC special access services in order to provide competitive broadband services. The local loop in almost every instance remains an ILEC-controlled bottleneck facility. Assuming the intent of this inquiry is to model costs, and assuming that such analysis will require comparison to or benchmarking against prior assumptions and cost data, the Joint CLECs would urge the Commission to reject the notion of a "second mile transport" facility and to instead obtain an apples-to-apples comparison by treating this facility for what it is and always has been under the Commission's own rules -- part of the local loop.[28]

This being said, the Joint CLECs believe the Commission is well advised to take account of how factors in the local loop (in part or in whole) can and do limit the availability and

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27 This component is often referred to as "mobile backhaul," and is effectively treated by the industry as a "middle mile" transport service rather than a local loop service. For example, carriers applying for broadband stimulus funds for projects to serve mobile service providers by connecting to cell towers and providing backhaul service to mobile switching offices or other aggregation points were classified as *middle mile* applications. *See, e,g*. Application of Tower Cloud, Inc. with respect to a "Middle mile network to provide wireless carriers the high capacity backhaul required to enable 3G and 4G mobile broadband services." By contrast, providers proposing to install fiber-to-the-node ("FTTN") technology to shorten local loop length and increase broadband speeds in traditional telephone plant are considered *last mile* applicants. *See, e.g*., Application of Great Plains Communications, Inc. with respect to a "Fiber-to-the-Node/Fiber-to-the-Home Last Mile Project."

28 See 47 C.F.R. § 51.319(a) (defining the local loop network element "as a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and the loop demarcation point at an end-user customer premises. . . . It also includes all electronics, optronics, and intermediate devices (including repeaters and load coils) used to establish the transmission path to the end-user customer premises as well as any inside wire owned or controlled by the incumbent LEC that is part of that transmission path.").

affordability of broadband -- particularly as factors such as price and availability in the wholesale market for local loops affect both the ability altogether of competitors to offer broadband services and the prices at which they can be offered to end users by those competitors. The costs of deploying fiber in the local loop to every home and business are daunting, especially in an era of reduced access to credit and economic recession, and it appears that many ILECs are therefore now considering or promoting FTTN strategies (at least as a transitional mechanism) in lieu of fiber-to-the-home ("FTTH") deployment. For example, one analysis performed by the National Telecommunications Cooperative Association ("NTCA") showed that for a rural service area the total costs of deploying FTTH can be four times greater than the costs of a FTTN build out.[29] Thus, copper -- whether in the form of a hybrid fiber/copper FTTN deployment or in the continued use of copper from the central office to the end user premises in many more urban and suburban settings where loop length is often less of a concern -- will remain a prevalent and important part of the network for some time.

Indeed, some ILECs have made clear their intent to continue to rely at least in part upon the existing copper network (at least for themselves) to ensure a viable interim path toward a longer-term broadband deployment strategy. For example, Qwest's Chief Executive Officer ("CEO"), Ed Mueller, is "bullish on fiber-to-the-node (FTTN) instead of fiber-to-the-home (FTTH)," and does not see FTTH as "necessary for Qwest in the foreseeable future."[30] According to Qwest's Chief Operating Officer, Qwest's "total FTTN subscribers equaled more than 11 percent of Qwest's total high-speed Internet customers," and Qwest's broadband growth has been "fueled by the demand within [Qwest's] FTTN foot-print." Further, Qwest is "talking

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[29] NTCA Analysis, Power Point Slide No. 7.

[30] Yu-Tine Wang, *Qwest Continues Line Loss, Targets FTTN*, Communications Daily, at 9, Oct. 29, 2009.

to wireless carriers about using its FTTN network to bring fiber to mobile base stations."[31] NTCA has likewise noted that "[r]etaining the existing copper plant results in reduced costs," and "FTTN is often an interim step for future FTTH deployment, since it is less expensive than FTTH" but still "serves as solid foundation for the future upgrade to a FTTH network."[32] NTCA points out that "[m]any newer access platforms can serve both FTTN over xDSL and FTTH in the same chassis simply by using different plug-in cards," which will simplify and facilitate the longer term transition to FTTH.[33]

This is not intended to say that FTTN is an appropriate solution in every instance (or even many instances) or that such a deployment should be the "end game" of the Commission's plan; the discussion above is merely intended to show that even many of those who intend or desire to migrate to fiber will in fact *continue to make use of copper* for some time to come. Indeed, the industry -- largely driven by innovative and enterprising competitors -- continues to find new ways to make better use of copper plant. This phenomenon started, of course, in the 1990s, as the nascent competitive industry brought to market advanced technologies that had lingered on the shelves for years within incumbent operations. As Chairman Kennard noted nearly a decade ago, "[a]lthough DSL technology has been available for years, it was not until the passage of the Act that competitive providers -- called data LECs or DLECs -- specializing in DSL deployment were born and began offering DSL service to consumers. … Once the DLECs had access to the inputs necessary to offer their DSL products to consumers, the threat of such competition spurred

[31] Id., at 10.

[32] Ex Parte of National Telecommunications Cooperative Association ("NTCA"), at 2 (Sept. 2, 2009) ("NTCA Analysis").

[33] NTCA Analysis, at 3.

the BOCs to develop their own DSL products."[34] Much the same is true now, as CLECs deploy Ethernet over Copper, MPLS over copper, and other innovative technologies that leverage the legacy copper plant to deliver broadband services capable of speeds of up to 20 Mbps.[35] For example, one of the Joint CLECs has been offering innovative broadband Internet services using Ethernet over bonded copper facilities for several years in each of the states in which it operates. However, that CLEC has already found that the regulatory policy that limits requesting carriers to a maximum of ten unbundled DS-1 loops to a single building[36] significantly constrains its ability to economically extend the coverage of these services and serve additional customers. (In short, these customers need more bandwidth than the ten DS-1 cap allows, but the CLEC is precluded from responding to that need specifically because of the regulatory limitation.) In theses instances there is typically no alternative for adding bandwidth other than special access DS-1 or DS-3 facilities since the RBOC is the only carrier serving the building and no CLEC or competitive carrier facilities are nearby. In the experience of one of the Joint CLECs, when additional DS-1 facilities above the cap of 10 to a building are required, the CLEC must go back to the customer and explain that the charges for the additional circuits will be much higher than the initial circuit -- which has frequently resulted in an adverse customer reaction and potential loss of the customer's trust and future business. Thus, in addition to the impact of the premature retirement of copper loops, the Commission's existing caps on unbundled network elements are impeding the deployment of innovative broadband services.

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34 Statement William E. Kennard, Chairman Federal Communications Commission, Before the Committee on the Judiciary, United States House of Representatives on H.R. 1686 - the "Internet Freedom Act" and H.R. 1685 - the "Internet Growth and Development Act" (July 18, 2000), available at: http://www.fcc.gov/Speeches/Kennard/Statements/2000/stwek096.html.

35 Ethernet over Copper appears also to be gaining traction in Europe according to recent reports. "European telcos turn to Ethernet over copper," Total Telecom, Sept. 7, 2009 (available at: http://www.totaltele.com/view.aspx?ID=448650).

36 47 C.F.R. § 51.319(a)(4).

When the goal is to provide broadband nationwide, we should not, as a national policy, be placing artificial limits on the leveraging of existing network assets or, even worse, taking offline facilities that could support that goal -- particularly facilities that are already in place (and thus would allow providers to avoid additional capital expenditures that can be better deployed elsewhere), that cost relatively little to maintain, and that have largely or entirely been "paid for" by the ratepayer long ago. Instead, the Commission should provide regulatory support of new technologies that better utilize existing network facilities and hybrid copper/fiber facilities that will be deployed during the transition. Technologies like Ethernet over copper support backhaul services for mobile wireless cells and bonding of copper pairs offer great promise. These technologies ultimately provide more bandwidth for wireless data and video applications, and higher broadband speeds in FTTN applications, which must be supported by the Commission in light of Congress' National Broadband Plan. The Commission should therefore ensure that existing facilities that can be used to buttress national broadband deployment do not go untapped, or worse, are removed from the network altogether.

Accordingly, as part of the National Broadband Plan, we propose that the Commission consider a moratorium on the retirement of copper loops by all ILECs and a requirement that they provide competitors with unbundled access to hybrid fiber/copper. As discussed above, ongoing technological advances have made it possible to offer broadband services with increasing speeds over existing copper facilities, and for consumers to reap the benefits of increased competition in the delivery of broadband services. Existing Commission policies, however, must be strengthened and clarified to allow better leverage of this existing network asset and promote more efficient use of resources toward broadband deployment.

The Commission's current policy allowing copper loop retirement was apparently premised on the belief that "[t]he phone companies are sitting on aging infrastructure," and that "[c]opper wire will end its life."[37] The National Broadband Plan should see that these views have proved shortsighted -- particularly as innovation in broadband services has flourished. If it is seeking ways in which to lower costs, ensure greater affordability and deeper penetration in the retail broadband market, the Commission can begin that search by revisiting its own copper loop retirement rules, consistent with the petition for rulemaking that is before it on this very topic.[38] Specifically, as proposed in the Petition for Rulemaking,[39] the Commission should consider the following:

- **Apply the retirement rules to the feeder portion -- which includes the so-called second mile -- of the loop.** In the *TRO*, the Commission modified its network disclosure rules to provide for an opportunity to object to notices of retirement of copper loops and subloops, but provided that this would not apply to notices of retirement of the feeder portion of loops.[40] However, if the feeder portion of the loop is unavailable for unbundled access, the practical difficulty of obtaining access to the remaining portion of the loop forecloses competitive access to the customer.

- **Clarify what is meant by "retirement."** The Commission apparently contemplated in the *TRO* that this could encompass removal of copper;[41] however, without clarification, the term retirement could be interpreted broadly.[42]

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[37] *Copper Lines Regaining Luster*, quoting then FCC Chairman Michael K. Powell, Washington Post, February 7, 2003, http://www.washingtonpost.com/ac2/wp-dyn?pagename=article&node=&contentId=A38106-2003Feb6&notFound=true (December 27, 2006).

[38] *In the Matter of Policies and Rules Governing the Retirement of Copper Loops By Incumbent Local Exchange Carriers*, RM -11358, Petition for Rulemaking and Clarification of BridgeCom International, Inc. *et al*. (filed Jan. 18, 2007) ("Petition for Rulemaking").

[39] Petition for Rulemaking at 10-16.

[40] *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 98-147, 96-98, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, n.829 (2003) (subsequent history omitted) ("*TRO*").

[41] *TRO*, n.847.

[42] For instance, retirement could be interpreted as a declaration by the carrier that copper is "retired," *i.e*. it is no longer available for use while leaving it in place; a decision by the carrier that it will disable the copper

> The Commission should therefore clarify that retirement refers to the physical removal of copper, and that any action short of that does not terminate the obligation to provide unbundled access to loop elements over copper. This is an asset that can be leveraged to promote affordable retail broadband; it would be highly inefficient to allow the mothballing of this asset when it otherwise remains in place for productive use. The Commission should also permit retirement only in a very narrow range of circumstances,[43] rather than permitting this useful asset to be taken out of commission too easily.

- **Sale or auction of spare copper loops.** In evaluating the market for these "broadband-useful" copper assets, the Commission should evaluate the possibility of requiring or authorizing ILECs to auction or otherwise sell copper loops pursuant to some public and open process. In fact, the California Public Utilities Commission recently required ILECs to entered into good faith negotiations with CLECs for a period of 60 days to sell copper loops that the ILECs seeks to retire at a fair market value.[44] The Commission should also consider the manner in which purchasers could obtain access to sold copper loops in ILEC central offices or at remote locations and ILEC obligations to maintain at cost-based prices portions of sold copper loops that remain on their premises or under their control. The Commission should explore whether any limits should be imposed on ILECs' ability to sell copper, so that sales may not be used in a way that does not realistically permit acquisition by competitors, such as by setting unrealistically high minimum prices.

These and other steps as outlined in the pending petition with respect to copper retirement issues will be critical in allowing greater competition in the broadband market to take hold -- and to drive down costs of broadband access for end users -- without the need for substantial capital that may not be available or justified for expenditure under particular circumstances. Moreover, such steps should be of great interest and attraction to the Commission, as they involve not a shift in or creation of subsidies or a grant or loan program that would place new strains on

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while leaving it in place in a condition from which it could be made available with some modification; or a decision by the carrier that it will no longer maintain a copper facility, without physically removing or disabling it.

[43] Petition for Rulemaking, RM -11358, at 11-13.

[44] *See Rulemaking Regarding Whether to Adopt, Amend, or Repeal Regulations Governing the Retirement by Incumbent Local Exchange Carriers of Copper Loops and Related Facilities Used to Provide Telecommunications Services,* Rulemaking 08-01-005, Decision Adopting Process Governing Retirement by Incumbent Local Exchange Carriers of Copper Loops and Related Facilities Used to Provide Telecommunications Services, Decision 08-11-033, 2008 Cal. PUC LEXIS 443, *66 (Cal. P.U.C. Nov. 13, 2008).

governmental budgets, but rather a shift in regulatory policies that will promote more efficient access to and effective use of existing, in-place network assets.

2. Availability and Pricing of Middle and Second Mile Connectivity.

2.(a). What is the price of purchasing middle mile connectivity, broken down by relevant geographic area and technology (e.g., DS3, microwave, OCn, Fast Ethernet, Gigabit Ethernet)? How much do these prices vary by length of the circuit? Precisely how do these prices for middle mile connectivity vary by category of supplier (e.g., incumbent LECs, competitive access providers, wireless providers, interexchange carriers, Internet backbone providers) and by the different regulatory treatment of that connectivity (e.g., when available as an unbundled network element, when available as a tariffed service subject to rate-of-return or price cap regulation, when subject to pricing flexibility, or when subject to no *ex ante* rate regulation)? Precisely how do these prices for middle mile connectivity vary by category of purchaser (e.g., wireless broadband service provider, cable system, local telephone company)?

The price of middle mile connectivity varies dramatically by the category of supplier (*e.g.*, ILECs, competitive access providers, Internet backbone providers), by the number of suppliers on the route in question, and by the different regulatory treatment of that connectivity (*e.g.*, when available as an unbundled network element ("UNE"), when available as a tariffed service, and when subject to pricing flexibility, or when subject to no *ex ante* rate regulation). In light of the complexities of ILEC pricing (e.g., tariffed prices, high rack rates, steep discounting, interlocking discounts, etc.) and ILEC control of the relevant data, it is difficult for anyone other than the ILEC to determine the effective rates paid, or fully assess the variation in ILEC middle mile pricing by geography, category of purchaser and regulatory treatment. Thus, the Commission should consider require the ILECs to respond to focused data requests on pricing to obtain the information the Commission requires for a more complete picture of the market.

Despite the difficulties in obtaining the needed data, certain observations can be made. Although the middle mile transport market as a whole is by no means the exclusive province of the RBOCs, special access certainly forms a substantial (if not overwhelming) portion of it -- and it would likely represent an even larger component if RBOC optical-level transport services were once again considered part of their special access offerings. For example, in early 2009 the National Regulatory Research Institute released a study regarding competition in the special access marketplace that analyzed special access data collected in 2007 and 2008.[45] The NRRI Study concluded "that ILECs still have strong market power in most geographic areas, particularly for channel terminations and DS-1 services."[46] The Study found that in 2007 the median percent of total circuits purchased from ILECs was 99% for DS-1 channel terminations, 98% for DS-1 transport, 91% for DS-3 channel terminations, and 67% for DS-3 transport. Although there was some variability among cities, the data showed that ILECs had over 80% market share in 98% of cities for DS-1 transport.[47] Further, the data showed that between 2006 and 2007, ILECs increased their rack rates by 8% for the fixed component of RBOC DS-3 transport charges, and 43% for the variable DS-3 transport charges.[48] The rack rates for RBOC DS-3s were about 46% higher than the rates of other ILECs in 2007.[49]

Such dramatic discrepancies in cost/price at the wholesale level cannot help but affect both a competitor's decision to enter a market in the first instance as a last mile service provider and the costs that the competitor must recover from the end user if it does choose to enter.[50] (This, of course, in turn informs what the RBOC itself can then choose to charge at retail for last mile broadband, knowing that its competitor starts with a cost basis of at least the price charged

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[45] Dr. Robert Loube & Peter Bluhm, National Regulatory Research Institute, 09-02, *Competitive Issues in Special Access markets*, at 1 (2009 Revised ed.) ("NRRI Study").

[46] *Id.* at 1.

[47] NRRI Study, at 42, Table 4, Appendices B and C.

[48] NRRI Study, at 58, Table 6 Price Trends from 2006 to 2007 - rack rates.

[49] NRRI Study, at 63, Table 11.

[50] "While some areas may have 'middle mile' infrastructure, the price to connect and access the 'middle mile' facilities can be an obstacle to offering an affordable high-speed broadband product. This is true even when there is 'last mile' infrastructure that can support higher broadband speeds." Comments of the American Cable Association, Docket No. 09-51, at 7-8 (June 8, 2009).

by the RBOC for transport.) As just one example, earlier this year, one of the Joint CLECs conducted an analysis of middle mile connectivity costs in a top 20 MSA in its service area. The analysis was conducted to identify the most cost-effective means of deploying fiber facilities in more than a dozen segments in the MSA. The analysis established that RBOC special access rates for OC-48 lit services and protected wavelength services (now available, of course, only on a "commercial" deregulated basis) were both over many times the UNE rates that the CLEC once paid for the underlying dark fiber. Similarly, the RBOC's commercial dark fiber rates were substantially (multiple times) higher than the UNE rates previously charged for that same facility. By contrast, competitive rates for similar middle mile services were somewhat less than those of the RBOC's OC-48 or Protected Wave rates (where competitive prices were even available) but clearly benchmarked against the RBOC rates to some extent. Thus, because the CLEC operated in a market where competition could be found on certain routes -- and only after substantial work by the CLEC in locating and piecing together those competitors' services, including several months during which it endured the much higher prices while awaiting completion of the multiple-carrier network migration -- the CLEC was "lucky" enough to pay only six (6) times what it had paid for UNE middle mile transport previously on the same routes.

The cost increases obviously would have been exacerbated had there been no competitive presence in the market, and the CLEC may have been required to exit the market altogether as a result -- thereby depriving end users of the benefits of any competition in the market. Such data confirm that a much greater focus on the impact of wholesale costs on retail rates -- and a revisiting of the decisions to allow wholesale middle market transport costs to go unregulated even on routes where there is little, if any, competition -- is warranted. The adverse effects of these higher prices will be even more pronounced after the AT&T-Bell South merger conditions expire in 2010 and permit AT&T to change the applicable tier for wire centers under the current UNE regime.[51] Based upon its experience with another RBOC, one of the Joint CLECs expects expiration of the merger condition may enable AT&T to raise prices up to ten fold or greater over the price of the UNEs it now purchases.

2.(b). What is the price of purchasing second mile connectivity, broken down by relevant geographic area and technology (e.g., DS3, microwave, OCn, Fast Ethernet, Gigabit Ethernet)?

As discussed at length in response to Question 1(d), the concept of "second mile transport" is misplaced, as the so-called "second mile" shown in the wireline network diagrams in the Public Notice is in fact part and parcel of the local loop. Specifically, the "second mile" in fact appears to be nothing more than the "feeder" portion of the loop.

This is proven out by the straightforward answer to the Commission's question. In terms of the costs of such loop portions in the so-called "second mile," few, if any, competitive broadband providers have found it technically and economically feasible to utilize access to copper subloops (in lieu of access to the entire loop) to provide competitive broadband services, even though the Commission's rules require ILECs to provide "nondiscriminatory access to a copper subloop on an unbundled basis."[52] In fact, to put it more bluntly, in decades of combined operations across the footprint of every RBOC, *none of the four Joint CLECs has ever found it technically or economically feasible to provide competitive broadband services over unbundled subloop facilities*. Moreover, the Joint CLECs as a group are not aware of any other competitive provider that has leased unbundled fiber to the Remote Terminal and utilized unbundled subloops to provide broadband serves to businesses.

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[51] 47 C.F.R. § 51.319(a)(4).

[52] 47 C.F.R. § 51.319(b).

As just one example of the costs and other barriers involved in such a deployment, one of the Joint CLECs conducted a technical feasibility study and analyzed the business case several years ago for deploying competitive broadband services via unbundled subloops in a suburban market served by an RBOC. The study examined the possibility of interconnecting at the Serving Area Interface ("SAI") (which would have provided an addressable market of approximately 500 subscribers) or alternatively at the Remote Terminal (which would have allowed the Joint CLEC to reach approximately 2,000 subscribers through several SAIs). The analysis also considered whether such connections could be achieved through an adjacent structure or via collocation at the Remote Terminal. Ultimately, however, the study identified substantial obstacles to efficient deployment including Remote Terminal collocation costs (if technically feasible and available in the first instance), the uncertainty of land costs and potential construction costs of a structure located adjacent to the Remote Terminal or SAI, uncertain delivery intervals from the ILEC for subloops, the difficulty of ensuring pre-qualification through the ILEC, and other technical feasibility challenges. Finally, in each case, even if the formidable technical obstacles were overcome, the business case was decisively negative on a net present value basis in light of the capital required to obtain space for and deploy equipment, the capital required to deploy (or lease) facilities to that equipment, and the substantial operating expenses (particularly the sizeable engineering and installation-related non-recurring charges) associated with such a deployment. The CLEC notes that the contract prices for unbundled subloops remain the same or higher than they were at the time of the study while other associated costs have likely increased, rendering this approach as uneconomical or moreso than previously.

Examples such as that described above demonstrate why more meaningful access to the entire local loop is necessary to bring affordable broadband alternatives to the majority of end users. If the prices remain as high as they are currently, and where RBOCs press more and more for competitors to purchase special access services in lieu of other options, competitors will need to pass such higher costs along to consumers, which in turn will allow incumbents to keep their prices higher as well.[53] Moreover, such prices may -- as in the example above -- deter entry altogether, thereby depriving the consumer of any benefit (even if muted as a result of wholesale pricing) from competition. Open access on reasonable terms to the local loop (including, but not limited to, the second mile) must therefore be a core component of the National Broadband Plan. As the draft Berkman Study found, open access policies such as unbundling played a critical role in the first generation transition to broadband in the countries that have been the most successful in developing a ubiquitous broadband network and are playing a crucial role in the planning for the next generation transition in both Europe and Japan.[54] Indeed, based on extensive econometric analysis, the Berkman Study found that unbundling contributed significantly to broadband penetration in OECD countries. Consequently, the first item on the list of "core lessons" from the Berkman Study stressed the importance of unbundling:

> Open access policy, in particular unbundling, played an important role in facilitating competitive entry in many countries observed; In many cases, even where facilities-based alternatives were available, unbundling – based entrants played an important catalytic role in the competitive market; In some cases competition introduced through open access drove investment and improvement in speeds, technological progression, reduced prices, or services innovations.[55]

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53 Nor should the Commission accept at face value that a facilities-based duopoly will necessarily keep prices lower on its own. As at least one leading survey indicates, prices for broadband services have crept upward in the past year notwithstanding the occurrence of a historic recession. Home Broadband Adoption 2008, Pew Internet & American Life Project, at 25-29 June 2009. This survey also demonstrates the tangible benefit of consumer choice -- a reduction of more than 10% in retail broadband pricing where the consumer could choose among three broadband providers, and a reduction of nearly 25% in retail prices where the consumer has four or more choices for broadband service. *Id*. at 26.

54 Berkman Study, at 74-75.

55 Berkman Study, at 76, Table 4.1. The econometric analysis performed in the Berkman Study of Japan, Denmark, the Netherlands, Norway, Sweden, France, the United Kingdom, and New Zealand for example support the overwhelming importance of open access to hard to replicate network components.

The Berkman Study found a near consensus in the OECD outside of the United States regarding "the value and importance of access regulation [*e.g*. unbundling], the strength of the evidence supporting that consensus, and the central role it allotted to the transposition of that experience to the next generation networks in current planning efforts."[56] The Commission should embrace these conclusions and ensure open access to loops and middle mile transport.

2.(d). What discounts from tariff "rack rates" or list prices are available for other services, such as OCn, Fast Ethernet, or Gigabit Ethernet?

There appears to be general consensus that fiber and optical-level services offer the most promise for middle mile networking going forward. Yet, as a result of regulatory (in)action several years ago, this market is ironically less transparent than it once was, with incumbents who often represent the only end-to-end fiber option on key routes having been excused from nearly all regulation. Indeed, both customers (such as last mile broadband providers) and the Commission itself have more visibility today into the pricing for DS-1 and DS-3 special access services than they do with respect to the OCn and other optical-level transport services that will become increasingly important in the future as a means of connecting broadband users.

The detailed list of questions contained in the Public Notice is a clear indication that this Commission values data as a critical component of the decision-making process. This data-driven approach stands in stark contrast, however, to the manner in which incumbent OCn and other optical level transmission services became deregulated in the first instance several years ago.[57] Rather than being subjected to a more detailed assessment of the dominance of a

56 Berkman Study, at 77, 79-80.

57 *See, e.g.*, *Verizon Telephone Companies' Petition for Forbearance From Title II and Computer Inquiry Rules with Respect to their Broadband Services Is Granted By Operation of Law*, News Release, WC Docket No. 04-440, rel. March 20, 2006; *Petition of AT&T Inc. for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules With Respect to its Broadband Services, etc., WC Docket No. 06-125, 22 FCC Rcd 18705 (2007); Petition of the Embarq Local Operating Companies for Forbearance Under 47 U.S.C. § 160(c)*

particular provider with respect to optical-level services on particular routes or in particular markets, several incumbents received broad, sweeping, and premature freedom from regulation at the *national* level on the theory that there was *nationwide* competition for broadband services. As the Commission's investigation here suggests, a much more granular analysis is needed to understand the scope and shortcomings of broadband capability and competition. Thus, much as it has in other proceedings,[58] the Commission should take a closer and more localized look at the state of the market for broadband services -- and, in the interim, to promote greater transparency in the pricing of facilities that are most important to achieving success in a National Broadband Plan, the Commission should subject OCn and optical-level services once again to the special access regime that also governs the DS-1 and DS-3 facilities these incumbents provide.[59] Then, at such time as the Commission finds that there is good cause at a proper level of market analysis to release certain markets or routes from such regulation, it could do so with the reasonable

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from Application of Computer Inquiry and Certain Title II Common-Carriage Requirements, Petition of the Frontier and Citizens ILECs for Forbearance Under 47 U.S.C. § 160(c) from Application of Computer Inquiry and Certain Title II Common-Carriage Requirements, Memorandum Opinion and Order, 22 FCC Rcd 19478 (2007).

58 *See e.g.*, *Petitions of the Verizon Telephone Companies for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Boston, New York, Philadelphia, Pittsburgh, Providence and Virginia Beach Metropolitan Statistical Areas*, WC Doc. No. 06-172, Memorandum Opinion and Order, 22 FCC Rcd 21293 (2007); *Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Omaha Metropolitan Statistical Area*, WC Doc. No. 04-223, Memorandum Opinion and Order, 20 FCC Rcd 19415 (2005).

59 The Recovery Act provides the Commission with extensive authority to re-examine national policy in light of the statutory directive to "ensure that all people of the United States have access to broadband capability." Among other things, the Recovery Act provides that the Commission must undertake an examination of "most effective and efficient mechanisms for ensuring broadband access by all people of the United States." This should include an examination of all barriers to the goal of ubiquitous and affordable broadband, including regulatory barriers that directly affect the ability of service providers to deploy, and customers to consume, broadband services. See Recovery Act § 6001(k). Further, the Joint CLEC recognize a stark contrast between the very specific and granular approach under the Recovery Act with respect to where broadband deployment should be supported (requiring a specific examination of broadband services, competition, and related issues at the census block level), with the AT&T Broadband Forbearance Order, which examined market competition, for effectively the same type of services, on a sweeping national level. *See, e.g.*, *Petitions of AT&T Inc. and BellSouth Corporation for Forbearance Under 47 U.S.C. 160(c) from Title II and Computer Inquiry Rules with Respect to its Broadband Services*, WC Docket No. 06-125, Memorandum Opinion and Order, FCC 07-180 (rel. Oct. 12, 2007) ("AT&T Broadband Forbearance Order").

assurance that this should not adversely affect the objective of ensuring that last mile providers have access to affordable middle mile transport to support their retail broadband offerings.

2.(f). Given current and projected demand and supply conditions, what portion of the overall cost of providing broadband Internet service to an end user is attributable to middle mile and second mile transport? Does this portion of cost vary by distance or length of the circuit, and to what extent? Using specific examples, data, and detailed analyses of deployments in different population and customer densities, please demonstrate whether and how the price of obtaining middle mile and/or second mile transport affect the business case for broadband deployment, both now and in the future.

The Commission has recognized that "access to affordable "middle mile" broadband facilities … is a necessary precursor to a provider's being able to deploy broadband services to its customers."[60] The impact of middle mile transport costs on the business case for broadband deployment will vary between urban, suburban, exurban, rural, and remote unserved areas. But, it is clearly a critical factor limiting broadband deployment in such areas. For example, in one exchange in Nebraska, Great Plains Communications estimated that 145 miles of backhaul fiber would be needed to serve 503 subscribers in the exchange at a cost of approximately $2.175 million.[61] Great Plains' experience illustrates the high capital investment costs often encountered in low density rural areas.

The Commission should not, however, mistake this as merely a rural problem. Fiber deployment is often more expensive in urban and suburban areas on a per mile basis due to higher expenses for rights of way, coordination of construction efforts, and other higher per mile costs as compared to a rural area. Moreover, even in suburban or exurban areas -- or even some Tier 2, 3, and 4 urban markets -- the required fiber backhaul distances from the end users to an Internet backbone node can be substantial and decisive in analyzing the business case. For

60 FCC Chairman Michael J. Copps, Bringing Broadband to Rural America: Report on Rural Broadband Strategy, ¶ 114 (May 22, 2009).

61 Ex Parte of National Telecommunications Cooperative Association ("NTCA"), PowerPoint Presentation Slide 7 (Sept. 2, 2009).

example, in deploying a broadband network in the Pittsburgh area, a provider may need over 30 miles of fiber backhaul to reach the central business district in downtown Pittsburgh from an exurban area such as Washington, Pennsylvania, and over ten miles of fiber backhaul for a suburban area such as Bethel Park.

Indeed, the costs of middle mile fiber can be determinative as to whether a business case can be made to support broadband deployment in such areas. For the build-out analysis for the Nebraska exchange mentioned above, NTCA's intent was to evaluate the relative costs of FTTN, FTTH, and wireless 4G technologies in a particular exchange and advocate for a particular last mile deployment approach (notably including the "second mile") that it thought most efficient.[62] What was particularly striking with respect to the NTCA analysis, however, was the relative cost of the middle mile transport associated with the project. As mentioned above, the analysis estimated that total fiber backhaul costs for a build out to this single exchange would be $2.175 million, regardless of the form of last mile deployment -- put another way, the costs of middle mile transport in this project could represent over 70% of the total cost of deploying broadband in the relevant exchange.[63] As such, middle mile transport plays a critical role in the delivery of broadband services to end users in *urban, rural,* <u>and</u> *remote* markets that are located dozens or hundreds of miles away from Internet backbone nodes, and the costs of establishing and maintaining such connections present an obstacle to deployment and continuing provision of high speed broadband service.[64] As the *Rural Broadband Report* notes: "Access to adequate and

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62 *Id.*

63 *Id.*

64 Even the most efficient last mile network provider will have an external input generally beyond its control that will ultimately affect end user price and/or deter investment in last mile infrastructure altogether. "The cost of purchasing Internet capacity on a per megabit basis has gone down in some instances over the last several years; however, in response to customer demand, small rural broadband providers are buying more and more capacity." National Telecommunications Cooperative Association, Initial Comments, Docket No. 09-51, at 37 (June

affordable 'middle-mile' broadband facilities—the facilities that are commonly used to connect the 'last mile' ISP with an Internet backbone service provider—is a necessary precursor to a provider's being able to deploy broadband services to its customers."[65] The Report continues: "We recommend that the Commission consider additional actions to address middle-mile connectivity as it analyzes the records being developed in open proceedings at the Commission."[66]

To be clear, however, while this issue may have been given most attention to date in rural areas as a result of the nature of the stimulus programs and the focus on such areas in completing the initial *Rural Broadband Report*, this is not just an issue of importance in rural areas -- indeed, as the example above indicates, markets that are suburban or even exurban in nature, or even smaller tier urban markets, also rely to a significant degree upon middle mile transport to access the Internet. Thus, promoting the availability of middle mile transport at lower costs will be critical in achieving the Commission's objective of affordable and ubiquitous broadband for end users.

8, 2009). The same could be said for any broadband provider -- regardless of the kind of market -- who has succeeded in achieving customer growth and/or is seeing expanding customer demand for applications and data.

65 *Rural Broadband Report*, ¶ 114.

66 *Id.*, ¶ 154.

4. Economics of Deployment

4.(a). Is the provision of a high-capacity fiber optic middle mile or second mile connection to a particular location a natural monopoly in some locations? If so, how can the Commission identify those locations and determine the cost of serving those locations?

The high-capacity fiber optic middle mile market is not a natural monopoly. However, the available evidence indicates that the special access market is dangerously over-concentrated and the RBOCs likely are using their market power to constraint competition and reap supra-competitive prices. For example, one of the Joint CLECs reports that approximately 82% of the wire centers it serves could be reached *only* by ILEC transport. Analysis performed by another Joint CLEC of its Tier 1 and 2 markets, found that only about 37% of the markets examined had middle mile competitive alternatives to the ILEC for more than 50% of the central offices in the LATA. Even this 37% figure overstates the competitive situation presented to the CLEC because it did not analyze data from less densely populated areas in its serving territory. Moreover, this CLEC's network planning team confirms that even where a competitive alternative is present, the competitive middle mile facilities are typically focused primarily on the metro area with far weaker coverage in the suburbs. The network planners also maintain that where the applicable RBOC has acquired a competitive provider, the prices for the formerly competitive transport services quickly rise to the RBOC's tariffed levels.

This experience is reinforced by NRRI's analysis of competition in the special access market utilizing the Herfindahl-Hirschman Index ("HHI"), which is used by the U.S. Federal Trade Commission ("FTC") and the U.S. Department of Justice ("DOJ") as a measure of the concentration within a market that clearly indicates that the BOCs possess inordinate market power in the special access market.

The HHI can range from 10,000 in the case of a market characterized by pure monopoly to 0 for an atomistic or a purely competitive market. The DOJ and FTC's Horizontal Merger

Guidelines provide that if the post-merger HHI is above 1,800 (indicating less than 5.5 effective competing firms in the market) it is "highly concentrated" and any merger that raises HHI by 100 points is presumed to be "likely to create or enhance market power or facilitate its exercise."[67] NRRI calculated HHI levels for each MSA for four special access product markets. The results demonstrate that all four special access markets analyzed by NRRI had high HHI results "far into the zone characterized by the Merger Guidelines as 'highly concentrated.'"[68] For instance, in 2007, the median HHI for DS-1 transport was 7,554 (indicating 1.32 effective competitors in a given MSA). For DS-1 channel terminations the concentration was even more pronounced with an HHI of 8,464 (indicating only 1.18 effective competitive firms in a given MSA). The DS-3 transport and channel termination markets were likewise "highly concentrated." The DS-3 Channel Termination had an HHI of 7,771 (indicating 1.30 effective competing firms), while the DS-3 transport market had an HHI of 5,405 (indicating 1.85 effective competing firms).[69] In sum, the HHI result show continuing high concentration in the special access market at levels indicative of market power in all four special access markets analyzed. None of the four markets analyzed had even two effective competing firms.[70]

NRRI concluded that for most areas, except possibly for high-density downtown areas, "competitors are still acting on the fringes of the special access markets."[71] These conclusions are borne out by the experience of the Joint CLECs. For example, one of the Joint CLECs reports that although it strongly prefers obtaining middle mile facilities from competitive

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[67] U.S. Department of Justice, Horizontal Merger Guidelines, §§ 0.1, 1.51.

[68] NRRI Study, at 38-41.

[69] *Id.*, at 41, Table 2, Median HHIs for Special Access Services, 2001, 2006, and 2007.

[70] *Id.*, at 41.

[71] *Id.*, at iv.

providers whenever available (or self-providing them where a business case can be made and time to construct permits), it had no viable alternative to obtaining middle mile fiber facilities from the ILEC for 52 percent of its fiber needs. Looked at in yet another light, of the nearly 550 wire centers served by this same CLEC, over 450 (or about 82%) could be reached *only* by ILEC transport. Similarly, Sprint stated in 2008 that it obtained 96% of its DS-1 circuits, and 84% of its DS-3 circuits from ILECs.[72]

Using 2007 data, NRRI also performed an analysis of earnings on special access for the three RBOCs. The results demonstrated that all three RBOCs earned "well above the 11.25% authorized return that the FCC last prescribed for price cap carriers." In fact, AT&T's return on investment for special access was estimated at 30%; Qwest's at 38%, and Verizon's at 15%.[73] NRRI's data show "that all three large RBOCs have raised prices above average cost, defined in the traditional accounting sense." Further, NRRI concluded that "such high earnings [are] evidence that the three RBOCs continue to have market power and, at AT&T and Qwest, at least, have made substantial and sustained price increases that are based on the use of market power."[74]

As demonstrated by this data and by the larger record in the Commission's special access proceeding, dominant providers retain a monopoly stranglehold over special access circuits on many routes and are earning supra-competitive profits. Special access prices are clearly far above forward-looking, cost-based levels that would be available if the market were competitive; RBOCs are earning unconscionable rates-of-return; pricing flexibility rules have backfired in that RBOCs have used price cap relief to raise prices; and customers are being harmed by billions of dollars per year in overcharges. Accordingly, as part of permanent reform and as

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[72] TR Daily, Dec. 4, 2008.

[73] NRRI Study, at 71, Table, 13.

[74] *Id.*, at 71.

proposed in the special access proceeding,[75] the Commission should immediately take the following actions:

- **Revisit DS1 and DS3 loop and transport special access rates.** The Commission long ago concluded that "access charges should ultimately reflect rates that would exist in a competitive market."[76] As the discussion here indicates, there is substantial reason to believe that current prices for special access do not satisfy this standard. To ensure that these facilities do not result in unaffordable bottlenecks that undermine the Commission's larger broadband deployment and availability objectives, the Commission should proceed with all due speed to revisit the pricing of such services.
- **Abolish Phase II pricing flexibility.** As the record in the special access proceeding demonstrates,[77] BOCs have been raising prices throughout MSAs where Phase II pricing flexibility has been granted. This by itself shows that the Commission's Phase II pricing flexibility tests misidentify where competition is sufficient to constrain prices. If those tests accurately identified where competition could replace regulation as the guarantor of reasonable prices, RBOCs would have reduced or maintained prices. Because competition should put downward pressure on prices, RBOCs have no reason to raise prices in response to competition, except the anticompetitive tactic of raising prices where there is no competition to offset predatory pricing in other areas. Therefore, the Commission should abolish Phase II pricing flexibility, put all prices back under price caps, and provide that RBOCs may only reduce prices.[78]

Once the above steps are taken, the Commission should then include all special access rates under a modified price cap regulatory framework. The permanent features of this regulatory framework, which were proposed in the Commission's special access proceeding,

75 *Special Access Rates for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, WC Docket No. 05-25, RM-10593, Order and Notice of Proposed Rulemaking, 20 FCC Rcd 1994, FCC 05-18 (rel. Jan. 31, 2005) ("Special Access NPRM").

76 *Access Charge Reform*, CC Docket Nos. 96-262, 94-1, 91-213, 95-72, First Report and Order, 12 FCC Rcd 15982, ¶ 42 (1997) (subsequent history omitted).

77 *See* ATX et al. 8/8/07 Comments, WC Doc. 05-25, RM-10593, at 49-51; Joint CLECs 6/13/05 Comments, WC Doc. 05-25, RM-10593, at 32-33.

78 *See* ATX *et al.* 8/8/07 Comments, WC Doc. 05-25, RM-10593, at 49-50.

should also include a productivity-based X-factor, revenue sharing, as well as the service baskets and categories proposed.[79]

Finally, as discussed in section 2(d), the Commission should require incumbents to re-tariff OCn and optical-level services and otherwise subject them once again to the special access regime that governs the DS-1 and DS-3 facilities these incumbents provide. The RBOCs will undoubtedly complain, of course, that this is simply another case of competitors asking for old relief. The Joint CLECs, however, believe that such measures are integrally related to and will drive the success of a National Broadband Plan. As the Commission's Public Notice here recognizes, the availability and affordability of high-capacity transport is a critical linchpin to the availability and affordability in turn of retail broadband. To ignore and/or await further action with respect to a substantial portion of the transport market (*i.e.*, RBOC special access) for which there are substantial indicators of concern would undermine the objectives of the National Broadband Plan. The Commission should therefore take steps to ensure first that middle mile transport -- including these critical special access facilities -- are available at reasonable rates and on reasonable terms and conditions, and then it can take steps to determine where true competition (and not just by reference to outdated collocation data, which is in any event a flawed proxy for competition) permits a more flexible approach to regulation of such RBOC special access facilities.

79 *See*, Joint CLECs 6/13/05 Comments, WC. Doc. 05-25, RM-10593, at 24-32; Reply Comments of ATX Communications Services, Inc., BridgeCom International, Inc., Broadview Networks, Inc., Pac-West Telecomm, Inc., US LEC Corp, and U.S. TelePacific Corp. d/b/a TelePacific Communications, WC Doc. No. 05-25, RM-10593, at 43-55 (filed July 29, 2005).

4.(d). Do existing long-haul fiber optic service providers offer either middle mile or second mile transport service to all communities that are passed by their long-haul fiber? Why or why not? What are the cost and economics of building a local "on-ramp" or fiber access point at these locations?

Existing long-haul and middle mile fiber services providers often do not yet offer "on or off ramps" to many of the communities that are passed by their long-haul fiber networks, especially in more rural areas with lower population density. For example, Weirwood, Virginia is a rural community on Virginia's Eastern Shore located a mere 1.5 miles from a broadband Internet backbone which follows Route 13. However, wireline broadband services are not available to this community.[80]

Weirwood is not alone. The FCC recognizes that it does not "have comprehensive and reliable data on the extent of broadband availability and subscribership in rural areas," or transfer speeds and prices.[81] Although comprehensive broadband data has not been collected, rural areas are clearly lagging the rest of the nation. The 2009 Pew Internet Study estimates through surveys that only 46 percent of adults living in rural America had home high-speed Internet usage as compared to the overall national home broadband adoption rate of 63 percent.[82] NTIA on the other hand found that only 39 percent of rural households had broadband access.[83] Both of these studies examine broadband penetration at relatively low speeds as compared to the average 63 Mbps download speeds available in Japan and other developed nations.[84]

This absence of "on-ramps" in many communities is not unexpected because the costs of constructing fiber access points or "on-ramps" are substantial and can only be justified by a

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80 FCC Chairman Michael J. Copps, *Bringing Broadband to Rural America: Report on Rural Broadband Strategy*, ¶ 31; MMTC Comments, at 2-3.

81 *Rural Broadband Report*, ¶ 88.

82 Pew Internet, Home Broadband Adoption 2009, at 1-2 (June 2009).

83 *Rural Broadband Report*, ¶ 27.

84 *Id.*, ¶ 88.

robust business case. For example, one of the Joint CLECs recently constructed several fiber "on and off ramps" to serve promising agri-businesses and other previously underserved end users in more outlying areas. This effort cost the CLEC more than $500,000 per on/off ramp, with the result being to reach these few wire centers. Similarly, Level 3 has previously stated in this docket that "[a]fter surveying its network for potential locations at which it might be possible to add access points [*i.e.*, on-ramps], Level 3 found that few or none were economically feasible."[85]

Congress recognized in the 2008 Farm Bill that the need for broadband in rural areas was becoming ever more critical.[86] As the Commission noted in its *Rural Broadband Report* "[r]ural governments and businesses are missing opportunities to function more efficiently and effectively" as large parts of rural America "have languished on the sidelines of the digital [broadband] revolution." "Even in rural areas where broadband is available, infrastructure deployment has not kept pace with the growing need for faster and more reliability connectivity." The Joint CLECs concur with the FCC's conclusion that "[a]t a time when access to affordable, robust broadband services is a fundamental part of efforts to restore America's economic well-being in both rural and urban areas, we must ensure that this capability is available to open the doors of opportunity for every."[87] This includes not only rural areas that have certainly been a significant focus to date, but also those outlying suburban areas and smaller urban centers that suffer from the same lack of affordable middle mile facilities to connect them to the larger Internet backbone.

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[85] Ex Parte of Level 3 Communications, LLC, at 1 (Sept. 17, 2009).

[86] Food, Conservation, and Energy Act of 2008, Pub. L. No. 110-246, § 6112, 122 Stat. 923, 1966 (2008) ("2008 Farm Bill).

[87] *Rural Broadband Report*, ¶¶ 1-5, 12.

Despite the costs, the Joint CLECs have taken the risk and made substantial investments such as that described above to bring affordable broadband service options to agri-businesses and other end users. The Joint CLECs share the Commission's vision that of the benefits of broadband for outlying areas. As was noted in the *Rural Broadband Report*:

> [access to broadband services] has the potential to enhance the efficiency and productivity of a number of agricultural activities in rural areas. Farmers, particularly those with smaller operations or in more remote locations, can materially benefit from real-time access to weather and crop reports and to databases of local and national agricultural extension services. For example, farmers can be warned if there is a heightened risk of a plant blight, a livestock disease, or an insect infestation; examine the problem; and know immediately what they need to do to address it. They can call upon Internet-driven tools and applications to consult with experts and precisely calculate the additional inputs they might need to enable their fields to flourish and their animals to thrive -- with less waste or risk to the environment. Detailed online market information can help farmers time the sales of their products more profitably.[88]

Despite the clear benefits, however, the high costs of middle mile fiber and "on-ramps" experienced by the Joint CLECs and other competitive providers serve as a major impediments to the Commission's vision for rural America and its abiding "goal of ubiquitous and affordable broadband for all, regardless of location, socioeconomic status, ethnic background, or any other factor."[89] Although one of the Joint CLECs moved forward with its investment in an outlying area as described above, that experience was quite costly as shown above, and it remains difficult to justify such investment in an era of scarce capital and economic uncertainty. Accordingly, the Joint CLECs agree with the Commission's conclusion that "[r]elying on market forces alone will not bring robust and affordable broadband services to all parts of America," such that

88 *Rural Broadband Report*, ¶ 18.

89 *Id*., ¶¶ 7, 11; Broadband NOI, ¶ 123.

"government should explore ways to help overcome the high costs of rural broadband deployment."[90]

5. Nature of Competition and Availability of Alternatives.

5.(d). Are there contractual terms and conditions in typical contracts for middle mile or second mile transport that impair or impede the ability of competitors to compete for either middle mile or second mile transport services? Do term requirements or discount contracts hinder or impede the development of competition? In either case, how?

There is substantial evidence that RBOCs continue to use leverage gained from offering the carrot of huge discounts from their special access "rack rates" combined with anticompetitive contract terms to impede competition in the special access market and obtain supra-competitive profits. The NRRI study found that special access customers who purchased from ILECs "under discount plans received large discounts from rack rates, ranging from 33% for DS-1 channel terminations to 68% for DS-3 channel terminations."[91] These discount plans are widespread. Verizon, for example, obtains over 90% of its carrier special access revenues under discount plans.[92] The experience of the Joint CLECs indicates that these discounts from unreasonably high rack rates are also present in higher capacity transport markets. NRRI voiced concern that "this disparity between average rack rates and average discount rates raises a question about whether the relatively few customers who buy at rack rates are paying *supracompetitive prices*." In fact, NRRI's estimates of RBOC earnings on special access indicate they are earning supra-competitive prices. For example, NRRI estimated that AT&T and Qwest are earning about *3 times the 11.25 percent rate* most recently set by the FCC on special access services.[93] Excessive RBOC special access prices are especially burdensome on small and medium sized

[90] *Rural Broadband Report*, ¶ 13.

[91] NRRI Study, at iv, 67.

[92] *Id.*, at 20.

[93] *Id.*, at iii (emphasis added).

businesses. Many small businesses continue to buy at the RBOC rack rates because they "have little bargaining power and often do not have the resources to conduct bidding proceedings."[94] Moreover, RBOCs are well aware that such customers have fewer alternatives and are not willing to offer aggressive pricing.

Moreover, NRRI concluded that high rack rates "may increase seller leverage" to add onerous terms and penalties in discount plans. For example, NRRI examined AT&T's "Term Payment Plan and found that the monthly penalty for under-purchase of a commitment level per line, "amounts to six times the price at which a buyer could purchase the same circuit at rack prices."[95] NRRI also examined AT&T's contract tariffs and found that they restricted the quantity of UNEs that a buyer could purchase such that in effect for "every $1 the buyer spends on UNE's over the 5% limit [on the ratio of the value of UNE purchases to special access billings imposed by AT&T], the buyer must pay AT&T an additional $20" in special access revenues.[96] Thus, the filed rate doctrine supplants normal contractual limitations on liquidated damages and penalties and "may be harming special access customers because they might actually have less protection at the FCC they would have in the courts" against such unreasonable terms and penalties.[97] NRRI noted:

> We found some of the penalties for over-purchasing and under-purchasing circuits to be surprisingly large. We also found a pattern of terms in some discount plans that may allow ILECs unreasonably to cement their market power by limiting buyers from shifting circuits to competitors who may have better products, lower prices, or both. We also found cases in which discount contracts for pricing flexibility areas included provisions limiting the buyer's purchase of UNEs, a right guaranteed to some carriers under the 1996 Act.[98]

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[94] *Id*., at 80.

[95] *Id*., at 73-74, 81.

[96] NRRI Study, at 78-79.

[97] NRRI Study, at 75-76.

[98] NRRI Study, at iv (emphasis added).

Further, the NRRI Study cast serious doubts on the assumptions underlying the FCC's price flexibility policy for special access; concluding:

> We found almost no evidence of the validity of the FCC's current policy equating special access competition with the presence of collocation in ILEC central offices. Market concentration for channel terminations remains high in all areas, regardless of pricing flexibility. This suggests that markets are not conforming to the FCC's predictions. *The FCC collocation proxy consistently overestimates the competitiveness of the DS-1 and DS-3 channel termination markets*.[99]

The experience of the Joint CLECs demonstrates that ILEC market power is not limited to the DS-1 and DS-3 special access markets that were the focus of the NRRI Study. Huge discounts off ILEC rack rates conditioned on the buyer's adherence to unreasonable conditions on volume discounts, including region-wide commitments, conditioning discounts on the level of prior purchases, and limits on the purchase of UNEs or competitors' services. The GAO found, "[t]hese conditions include such things as revenue guarantees, requirements for shifting business away from competitors, and severe termination penalties."[100] It stated that "These types of contracts … inhibit choosing competitive alternatives because the customer does not receive the applicable discount, credit, or incentive if the revenue targets are not met and additional penalties may also apply."[101] As the GAO concluded, "[u]nless a competitor can meet the customer's entire demand, the customer has an incentive to stay with the incumbent and to purchase additional circuits from the incumbent, rather than switch to a competitor or purchase a portion of their demand from a competitor—even if the competitor is less expensive."[102]

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[99] *Id.* (emphasis added).

[100] U.S. GENERAL ACCOUNTABILITY OFFICE, REPORT TO THE TO THE CHAIRMAN., COMMITTEE ON GOVERNMENT REFORM, HOUSE OF REPRESENTATIVES - TELECOMMUNICATIONS, "FCC NEEDS TO IMPROVE ITS ABILITY TO MONITOR AND DETERMINE THE EXTENT OF COMPETITION IN DEDICATED ACCESS SERVICES, at 30 (November 2006).

[101] *Id.*

[102] *Id.*

Unfortunately, these onerous contract terms are a disturbing reality in the higher capacity transport market. For example, the Joint CLECs have attached hereto a table showing sample contract tariff provisions drawn from Ameritech's interstate access tariff.[103] This table shows a variety of conditions that the Joint CLECs believe would likely not be secured by a provider in a more competitive market, ranging from limitations on resale to clauses that require a certain amount of services be taken away from a competitor and bought instead from AT&T. Of course, in light of the Commission's decision to forbear from regulating AT&T's optical-level services, the tariff (and thus this chart) does not include any of the onerous terms and conditions that likely apply to the even higher-capacity services that are critical in support broadband deployment.[104] At bottom, such unreasonable ILEC contracts are unlawful because they inhibit customer choice and competition, and absent the filed rate doctrine, many of these provisions would likely be deemed unlawful by the courts.[105] Nor do they promote the provision of the most cost-effective and innovative services because customers are not free to move to other special access providers based on better price or superior technology as they are locked in by non-cost-based terms and conditions.

Middle mile transport is a critical input for the deployment of broadband to small business, residences and other users. As demonstrated above, competition in the middle mile market is undermined by anti-competitive terms imposed by RBOCs that "have the effect of limiting the ability of a buyer to move circuits to competitors" who may have better products,

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[103] *See* Table 1 hereto.

[104] If one reviews AT&T's access tariffs, one can readily see that entire sections (and even entire contract tariffs) have been deleted, presumably because these provisions addressed optical-level services that are no longer subject to tariffing requirements. Thus, one cannot readily determine what onerous terms and conditions may have applied with respect to those services.

[105] NRRI Study, at 76-79.

lower prices, or both."[106] The Commission has observed that "even when the last-mile provider acquires access to adequate middle-mile facilities, that access may be prohibitively expensive," which can deter investment to extend deployment of broadband service and the needed network improvements to keep pace with burgeoning bandwidth demands.[107] Likewise, U.S. Celluar observes that "special access charges divert funds from network expansion and broadband upgrades" because backhaul is a large operating expense and a "significant cost driver."[108] Thus, it is easy to postulate a rural area without cell service or broadband where the difference between special access rates and UNE rates "could mean the difference between a wireless cell tower and no cell tower."[109] Accordingly, U.S. Cellular, the Joint CLECs, NRRI, and many others have called upon the Commission to address the anti-competitive terms and conditions imposed by RBOCs on discount plans.[110]

Conclusion

The Joint CLECs applaud the Commission for seeking information about middle mile broadband facilities to sufficiently account for them in the National Broadband Plan. As discussed herein, middle mile facilities are essential for the delivery of robust broadband services to end users. Additionally, the cost of middle mile facilities affects the availability and affordability of retail broadband services. Thus, the Commission should take proactive steps recommended by the Joint CLECs to foster increased middle mile deployment.

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[106] *Id.*, at 77.

[107] *Rural Broadband Report*, ¶ 114.

[108] Comments of U.S. Cellular, at Power Point slide 13 (Oct. 22, 2009).

[109] NRRI Study, at ¶ 98.

[110] *See, e.g.*, Comments of U.S. Cellular, at Power Point slide 13 (Oct. 22, 2009); NRRI Study, at 72-79.

/s/

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Dated: November 4, 2009

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
Contract Offer No. 17 – Service Offer	22.17.3 Service Offer Terms and Conditions	(B)(8) Customer agrees not to resell any capacity on services covered under this Contract Offer No. 17 to a third party.	No Resale
Contract Offer No. 20- MVP DS1, DS3 and [] - Service Offer	22.20.1 General Description 22.20.3 Eligibility Criteria for Contract Offer No. 20	MVP DS1, DS3 and (1) Service Offer ("Contract Offer No. 20") is an access discount pricing plan for MVP Customers where subscription is required in four of the SBC Companies: Ameritech Operating Companies, Southwestern Bell Telephone Company, Southern New England Telephone Company and Pacific Bell Telephone Company. (C) A minimum of 4% of the Customer's Current Annual Revenue Commitment, as described in Section 22.20.5, must come from services previously provided by a carrier other than the Ameritech Operating Companies and its affiliates, This 4% level will be measured at the end of the Term Period, however, the 4% requirement may be demonstrated at any time during the contract period. Customer must adhere to the following Sections (1) and (2). (1) Customer must provide documentation to demonstrate that the Subject Services have been converted from another carrier to Telephone Company services. Documentation may include but is not limited to: circuit detail records, invoices, and coordinated orders to move the service. The Telephone Company is willing to review other documents that the Customer may deem appropriate to meet this criteria, however only to the extent that it does not result in breach of any non-disclosure agreements which may govern the distribution of such information	Port Services from Competitor Clause AND Multiple Region Commitment

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
		(2) If Customer fails to reach the 4% requirement as measured at the end of the Term Period, the Customer will be deemed to have terminated Contract Offer No. 20 and termination liabilities will apply as set forth in Section 22.20.7.	
Contract Offer No. 21-Capacity Offer	22.21.4 Terms and Conditions	(B)(9) Customer agrees not to resell any capacity on services covered under the Contract Offer No. 21 to a third party.	No Resale
Contract Offer No. 26 - Service Offer	22.26.3 Service Offer - Terms and Conditions	(B)(13) Customer agrees not to resell any capacity on services covered under this Contract Offer No. 26 to a third party.	No Resale
Contract Offer No. 27-DS1, DS3 Service Offer	22.27.2 Eligibility Criteria 22.27.3 - Terms and Conditions	(A)(3) Customer must have a minimum of $25 million dollars in cumulative annual recurring revenue for DS1, DS3, (1) Services in three of the SBC Companies: Ameritech Operating Companies, Southwestern Bell Telephone Company, and Pacific Bell Telephone Company; (A)(4) The Customer and its affiliates must maintain an Access Service Ratio, equal to or greater than 95%. The Access Service Ratio is defined in Section 22.27.3(B)(7) and will be measured on each anniversary of the Contract offer No. 27 effective date. (B)(7) As referenced in Section 22.27.2(A)(4), the Customer and its affiliates must maintain an Access Service Ratio of 95% or greater. The ratio, calculated annually is the Annual Access Revenue minus Annual Wholesale Revenue, (the associated rate elements not included in the interstate tariff) divided by the total qualified Annual Access Revenue. To maintain compliance with Contract Offer No. 27, the ratio must be greater than or equal to 95%. The 95% ratio is calculated as follows:	Access Service Ratio AND Multiple Region Commitment

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
		Annual Access Revenue – Annual Wholesale Revenue ----------------------------- Annual Access Revenue	
Contract Offer No. 28- Wireless Advantage managed Services Value Incentive Plan (WAMS-VIP) Offer	22.28.4 WAMS-VIP Offer Incentive Discounts, Eligibility Criteria for WinBack Incentive	(E)(1)(a) The Customer must present reasonable and verifiable information, which includes but is not limited to circuit detail or coordinated move orders, to demonstrate the service being converted is currently being provided by a carrier other than the Telephone Company or its affiliates; and	Port Services from Competitor Clause
Contract Offer No. 33 – Offer	22.33.4 Terms and Conditions	(B)(14) As referenced in Section 22.33.3(A)(5), the Customer and its affiliates must maintain an Access Service Ratio of 95% or greater. The ratio, calculated annually is the Annual Access Revenue minus Annual Wholesale Revenue, (the associated rate elements not included in the interstate tariff) divided by the total qualified Annual Access Revenue. To maintain compliance with Contract Offer No. 33, the ratio must be greater than or equal to 95%. The 95% ratio is calculated as follows: Annual Access Revenue – Annual Wholesale Revenue ----------------------------- Annual Access Revenue	Access Service Ratio
Contract Offer No. 35 – Wireless Advantage Managed Service – WinBack (WAMS-WinBack)	22.35.3 WAMS-WinBack Terms and Conditions	(B)(1) Customer must order a new Service with four (4) [OCn circuits] and convert a minimum of five-hundred and forty-five (545) DS1's and twenty-three (23) DS3's ("Network"). (2) Customer must present reasonable and verifiable information, which includes but is not limited to circuit detail or coordinated move orders, to demonstrate the DS1 and DS3 services being converted under this Contract Offer No. 35 are	Port Services from Competitor Clause

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
		currently being provided by a carrier other than the Telephone Company or its affiliates.	
Contract Offer No. 36 – Wireless Advantage Managed Service – WinBack (WAMS-WinBack)	22.36.3 WAMS-WinBack Terms and Conditions	(B)(2) Customer must present reasonable and verifiable information, which includes but is not limited to circuit detail or coordinated move orders, to demonstrate the DS1 and DS3 services being converted under this Contract Offer No. 36 are currently being provided by a carrier other than the Telephone Company or its affiliates.	Port Services from Competitor Clause
Contract Offer No. 42 – Special Access Service Offer	22.43.2 Eligibility Criteria	(D) The Customer must maintain an Access Service Ratio, equal to or greater than 98%. The Access Service Ratio is defined in Section 22.43.3(H) and will be measured monthly.	Access Service Ratio
Contract Offer No. 43 - DS1, DS3, (1)	22.43.1 General Description 22.43.2 Eligibility Criteria 22.43.3 Terms and Conditions	The Special Access Service Offer (Contract Offer No. 43) is an access discount pricing plan requiring subscription from Customers under the following Access Tariffs: Ameritech Operating Companies (Ameritech) Tariff F.C.C. No 2, Nevada Bell Telephone Company Tariff F.C.C. No. 1, Pacific Bell Telephone Company Tariff F.C.C. No. 1, Southwestern Bell Telephone Company Tariff F.C.C. No. 73, and The Southern New England Telephone Company Tariff F.C.C. No. 39. (D) The Customer must maintain an Access Service Ratio, equal to or greater than 98%. The Access Service Ratio is defined in Section 22.43.3(H) and will be measured monthly. (H) As reference in Section 22.43.2(D), the Customer and its affiliates must maintain an Access Service Ratio of 98% or greater. The ratio, calculated monthly, is the Access Revenue divided by Access Revenue plus Wholesale Revenue. To maintain compliance with this Contract Offer, the ratio must be greater than or equal to 98%. The 98% ratio is calculated as follows:	Access Service Ratio AND Multiple Region Commitment AND Port Services from Competitor Clause

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
	22.43.5 Discounts and Other Credits	Access Revenue Access Revenue + Wholesale Revenue (E)(3) The Customer must provide documentation to demonstrate that the Subject Services have been converted from another carrier to the Telephone Company's network. Documentation may include but is not limited to; circuit detail records, invoices, and coordinated orders to move the service. The Telephone Company is willing to review other documents that the Customer may deem appropriate to meet this criteria, however only to the extent that it does not result in breach of any non-disclosure agreements which may govern the distribution of such information.	
Contract Offer No. 46-Offer	22.46.4 Terms and Conditions	(B)(13) The Customer and its affiliates must maintain an Access Service Ratio of 95% or greater. The ratio, calculated annually, is the Annual Access Revenue minus Annual Wholesale Revenue (the associated rate elements not included in the interstate tariff) divided by the total qualified Annual Access Revenue. To maintain compliance with Contract Offer No. 46, the ratio must be greater than or equal to 95%. The 95% ratio is calculated as follows: Annual Access Revenue – Annual Wholesale Revenue ------------------------------ Annual Access Revenue	Access Service Ratio
Contract Offer No. 47-MVP DS1, DS3 and (1) Service Offer	22.47.1 General Description	Managed Value Plan (MVP) DS1, DS3 and (1) Service Offer ("Contract Offer No. 47") is an access discount pricing plan for MVP Customers where subscription is required in four of the SBC Companies: Ameritech Operating Companies, Southwestern Bell Telephone Company, Southern New England Telephone Company and Pacific Bell Telephone Company.	Multiple Region Commitment

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
Contract Offer No. 48-DS1,DS3 Service Offer	22.48.2 Eligibility Criteria	(A)(3) The Customer and its affiliates must maintain an Access Service Ratio, equal to or greater than 95%. The Access Service Ratio is defined in Section 22.48.3(B)(8) and is measured on the anniversary of the effective date of Contract Offer No. 48. (A)(4) Customer must have a minimum of $500,000 in cumulative annual recurring revenue for DS1 and DS3 Services in the following SBC Companies: Ameritech, and SNET.	Access Service Ratio AND Multiple Region Commitment
	22.48.3 Terms and Conditions	(B)(8) As required in Section 22.48.2(A)(3), the Customer and its affiliates must maintain an Access Service Ratio of 95% or greater. The ratio shall be calculated annually as follows: Customer's Annual Access Revenue minus Customer's Annual Wholesale Revenue (defined as the sum of the revenues derived from Customer's purchase of the rate elements listed below in Table B), divided by the Customer's total qualifying Annual Access Revenue. To maintain compliance with Contract Offer No. 48, the ratio each year of the Term Period must be greater than or equal to 95%. The 95% ratio is calculated as follows: (Annual Access Revenue - Annual Wholesale Revenue) / Annual Access Revenue (B)(8)(a) The associated rate elements, as defined below, apply when the Customer (and) its affiliates') Annual Access Revenue equals the Customer (and its affiliates') current interstate annual recurring billed revenue:	

<table>
<tr><th>ILEC Tariff</th><th>Section</th><th>Text</th><th>Type</th></tr>
<tr><td></td><td></td><td><u>TABLE A</u>

<table>
<tr><th>Service</th><th>General/Basic Description</th></tr>
<tr><td>Entrance Facilities</td><td>6.1.3 (A)(1)(a)</td></tr>
<tr><td>Direct Transport Services</td><td>6.1.3 (A)(1)(b)</td></tr>
<tr><td>Direct Analog</td><td>7.2.3</td></tr>
<tr><td>Base Rate, DS1 and DS3 Service</td><td>7.2.9</td></tr>
<tr><td>(1)</td><td></td></tr>
<tr><td>(1)</td><td></td></tr>
</table></td><td></td></tr>
<tr><td>Contract Offer No. 61-Broadband Plan-Service Offer</td><td>22.61.4 Terms and Conditions</td><td>(B) The Customer and its affiliates must maintain an Access service Ratio of 95 percent or greater. The ratio will be based cumulative billing for DS1 and DS3 services in the MSAs described in Section 22.61.3(A) of this Contract Offer for the prior six-month period. The Access Service Ratio will be calculated upon the completion of each six-month period beginning upon the commencement of the Term Period as follows:
Access Billing – Wholesale Billing

Access Billing

Where:
(1) Access Billing consists of the Customer’s and its affiliates’ interstate recurring billing for DS1 and DS3 rate elements, as defined in Ameritech Tariff F.C.C. No. 2 Sections 7.5.9, 7.5.12, 21.5.2.7 and 21.5.2.10; and

(2) Wholesale Billing consists of the Customer’s and its</td><td>Access Service Ratio</td></tr>
</table>

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
		affiliates' recurring billing for DS1 and DS3 bandwidth equivalent rate elements, as provided in Table A, not included in the interstate tariff(s).	
Contract Offer No. 64-Special Access Service Offer	22.64.1 General Description 22.64.2 Eligibility Criteria	Special Access Service Offer (Contract Offer No. 64) is an access discount pricing plan for which subscription is required in the following Access Tariffs: Ameritech Operating Companies (Ameritech) Tariff F.C.C. No. 2, Pacific Bell Telephone Company Tariff F.C.C. No. 1, Southwestern Bell Telephone Company Tariff F.C.C. No. 73, and The Southern New England Telephone Company Tariff F.C.C. No. 39. (A)(4) The Customer must maintain an Access Service Ratio, equal to or greater than 98%. The Access Service Ratio is defined in Section 22.64.3(E) and will be measured quarterly.	Access Service Ratio AND Multiple Region Commitment
Contract Offer No. 73 – 2005 Access Extension Offer	22.73.1 General Description 22.73.4 Access Service Ratio	Contract Offer No. 73 – 2005 Access Extension Offer is an access discount plan for which subscription is required to the following access tariffs: Ameritech Operating Companies (Ameritech) Tariff F.C.C. No. 2, Southwestern Bell Telephone Company Tariff F.C.C. No. 73, Nevada Bell Telephone Company Tariff F.C.C. No. 1, The Southern New England Telephone Company Tariff F.C.C. No. 39, and Pacific Bell Telephone Company Tariff F.C.C. No. 1. (A) As referenced in Section 22.73.4, the Customer and its affiliates must maintain an Access Service Ratio of 95 percent or greater. The ratio, calculated monthly, is the Access Revenue divided by Access Revenue plus Wholesale Revenue. To maintain compliance with this Contract Offer the ratio must be greater than or equal to 95 percent. The 95-percent ratio is calculated as follows: Access Revenue --	Access Service Ratio AND Multiple Region Commitment

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
		Access Revenue + Wholesale Revenue (1) Access Revenue is the Customer's and its affiliates' current interstate recurring billed revenue associated with the rate elements, as defined in Table 1 below, or comparable interstate access services, from all Qualified Companies: Table 1	

Service	General/Basic Description
Voice Grade	7.2.3
Generic Digital Transport (DS0), High Capacity (DS1 and DS3) Services	7.2.9
(1)	
(1)	
(1)	

(2) Wholesale Revenue is the Customer's and its affiliates' recurring billed revenue for associated rate elements, as defined in Table 2 herein, , from all Qualified Companies not included in the interstate or intrastate access tariff(s).

Table 2

Service Level	Associated Rate Elements Not Included in Interstate Tariff
Voice Grade/DS0	2-wire analog and 2-wire digital loops 2-wire analog and digital transport

AT&T (Ameritech) Access Tariff Provisions				
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers				
ILEC Tariff	***Section***	***Text***		***Type***
		DS1/LTI	4-wire digital loop DS1 Entrance Facilities DS1 Interoffice Transport DS1 Cross Connects DS1 Multiplexing All DS1 non-tariffed Committed Information Rate Broadband Services	
		DS3/LT3	DS3 Loop DS3 Entrance Facilities DS3 Interoffice Transport DS3 Cross Connects DS1/DS3 Multiplexing All DS3 non-tariffed Committed Information Rate Broadband Services	
		OC-3 OC-12 OC-48	OC-3 Entrance Facilities OC-3 Interoffice Transport OC-3 Cross Connects OC-3 Multiplexing OC-12 Entrance Facility OC-12 Interoffice Transport OC-12 Cross Connects OC-12 Multiplexing OC-48 Entrance Facilities OC-48 Interoffice Transport OC-48 Cross Connects OC-48 Multiplexing All OCN equivalent non-tariffed Committed Information Rate Broadband Service	
		Other Transport Products	Dark Fiber – Interoffice Dark Fiber – Loop Dark Fiber – Subloop	

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
		Dark Fiber Cross Connects Unbundled Dedicated Transport	
Contract Offer No. 76 - DS3 Transport Service Offer	22.76.3 Terms and Conditions	(B)(5) Commingling, as defined in Ameritech Tariff F.C.C. No. 2, Section 2.6, of Subject Services under this Contract Offer is prohibited.	Commingling Restriction
Contract Offer No. 77-DS1/DS3 Transport Service Offer	22.77.3 Eligibility Criteria 22.77.4 Terms and Conditions	(2) The Customer must purchase forty-five (45) new DS1 Subject services, as described in Section 22.77.4(D) herein. (3) The Customer must be willing to purchase one (1) (1) Subject Service and convert two (2) existing DS3 services to the new Subject Service. (4) The customer must provide documentation that equivalent Subject Services are currently provided, or can be provided, by another carrier other than the Telephone Company. Documentation may include, but is not limited to, circuit detail records, invoices or service proposals. Documentation must be provided within 30 days of the effective date of this Contact No. 77. (B)(5) Commingling, as defined in Ameritech Tariff F.C.C No. 2, Section 2.6 of Subject Services under this Contract Offer, is prohibited.	Port Services from Competitor Clause AND Commingling Restriction
Contract Offer No. 79-Special Access Service Offer	22.79.1 General Description 22.79.3 Terms and	Special Access Service Offer (Contract Offer No. 79) is an access discount pricing plan for which subscription is required to the following Access Tariffs: Ameritech Operating Companies (Ameritech) Tariff F.C.C. No. 2, Pacific Bell Telephone Company (PBTC) Tariff F.C.C. No. 1, Southwestern Bell Telephone Company (SWBT) Tariff F.C.C. No. 73, and The Southern New England Telephone Company (SNET) Tariff F.C.C. No. 39. (D) Commingling, as defined in Ameritech Tariff F.C.C No. 2,	UNE Conversion Incentives AND Multiple Region Commitment AND Commingling Restriction

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
	Conditions	Section 2.6 of Subject Services under this Contract Offer, is prohibited.	
	22.79.6 Incentives	(B) Conversion of DS1 or DS3 capacity loops: For customers who subscribe to this Contract Tariff No. 79 and convert their DS1 or DS3 capacity loops, dedicated transport, or Expanded Extended Loops (EELs) provided the Telephone Company as unbundled network elements (UNEs) to Special Access Service, the Telephone Company will multiply the customer's billed revenue associated with such converted UNEs by 1.50 in the year of conversion towards the attainment of the MARC. The converted services in subsequent years will not receive the billed revenue multiplier towards the attainment of the MARC. This multiplier shall be used only to determine the billed revenue for Qualifying Services for purposes of MARC attainment, and not for any other purpose. The Customer shall provide a detailed list of circuits that have been converted to the Telephone Company within 30 days after the contract anniversary year for verification. For example, if the customer converts $1,000,000 ($1M) in UNEs to Special Access Services during the first Annual Contract Term Period of this Contract Tariff No. 79, then, in calculating billed revenue for Qualifying Services, the customer shall be deemed to have purchased $1,500,000 ($1.50M) in Special Access DS1 Services for purposes of calculating the billed revenue for Qualifying Services for meeting the MARC as described in section 22.79.4. In subsequent years, the converted UNE services would count as $1,000,000 ($1M) towards MARC calculations.	
Contract Offer No. 80 -	22.80.1 General	Special Access Service Offer is an access discount plan for	Multiple Region

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
Special Access Offer	Description	DS1, DS3, (1), (1), and (1) Services (Contract Offer No. 80), for which subscription is required in the following SBC Companies: Ameritech Operating Companies (Ameritech); The Southern New England Telephone Company (SNET); Pacific Bell Telephone Company (PBTC); and Southwestern Bell Telephone Company (SWBT).	Commitment
Contract Offer No. 81 - DS1/DS3 and Transport Service Offer[1])	22.81.3 Eligibility Criteria 22.81.4 Terms and Conditions	(D) The Customer must provide documentation that equivalent Subject Services are currently provided, or can be provided, by another carrier other than the Telephone Company. Documentation may include, but is not limited to, circuit detail records, invoices or service proposals. Documentation must be provided within 30 days of the effective date of this Contract No. 81. (B)(5) Commingling, as defined in Ameritech Tariff F.C.C No. 2, Section 2.6 of Subject Services under this Contract Offer, is prohibited.	Port Services from Competitor Clause AND Commingling Restriction
Contract Offer No. 86 – DS3 Transport Service Offer	22.86.3 Eligibility Criteria 22.86.4 Terms and Conditions	(B) The Customer must convert one (1) existing DS3 Subject Services, as described in Section 22.86.4(D) herein. (D) The Customer must provide documentation that equivalent Subject Services are currently provided, or can be provided, by another carrier other than the Telephone Company. Documentation may include, but is not limited to, circuit detail records, invoices or service proposals. Documentation must be provided within 30 days of the effective ate of this Contract No. 86. (B)(5) Commingling, as defined in Ameritech Tariff F.C.C No. 2, Section 2.6 of Subject Services under this Contract Offer, is prohibited.	Port Services from Competitor Clause AND Commingling Restriction
Contract Offer No. 89 –	22.89.2 Eligibility	(C) The Customer must provide documentation that an	Port Services from

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
DS3 Special Access Offer	Criteria	equivalent Subject Service is currently provided, or can be provided, by another carrier other than the Telephone Company. Documentation may include, but is not limited to, circuit detail records, invoices or service proposals.	Competitor Clause AND Commingling Restriction
	22.89.3 Terms and Conditions	(B)(3) Commingling, as defined in Ameritech Tariff F.C.C No. 2, Section 2.6 of Subject Services under this Contract Offer, is prohibited.	
Contract Offer No. 90- Access Discount Offer	22.90.1 General Description	Contract Offer No. 90 – Access Discount Offer is an access discount plan for which subscription is required to the following access tariffs: Ameritech Operating Companies (Ameritech) Tariff F.C.C. No. 2, Southwestern Bell Telephone Company (SWBT) Tariff F.C.C. No. 73, Nevada Bell Telephone Company (NBTC) Tariff F.C.C. No. 1, The Southern New England Telephone Company (SNET) Tariff F.C.C. No. 39, and Pacific Bell Telephone Company (PBTC) Tariff F.C.C. No. 1.	Access Service Ratio AND Multiple Region Commitment AND Commingling Restriction
	22.90.3 Terms and Conditions	(B)(14) Commingling, as defined in Ameritech Tariff F.C.C No. 2, Section 2.6 of Subject Services under this Contract Offer, is prohibited.	
	22.90.4 Access Service Ratio	(A) As referenced in Section 22.90.4, the Customer and its affiliates must maintain an Access Service Ratio of 95 percent or greater, except as described in Section 22.90.11(B) of this Contract Offer. The ratio, calculated monthly, is the Access Revenue divided by Access Revenue plus Wholesale Revenue. To maintain compliance with this Contract Offer, the ratio must be greater than or equal to 95 percent, except as provided in Section 22.90.11. The 95-percent ratio is calculated as follows:	

Tariff F.C.C. No. 2
22. Pricing Flexibility Contract Offers

ILEC Tariff	Section	Text	Type
		Access Revenue -------------------------------- Access Revenue + Wholesale Revenue (1) Access Revenue is the Customer's and its affiliates' current interstate recurring billed revenue associated with the rate elements, as defined in Table 1 below, or comparable interstate access services, from the Telephone Company or its affiliated telephone companies in any of the Contract Offers as described in Section 22.90.2(C): Table 1:	

Service	General/Basic Description
Voice Grade	7.2.3
Generic Digital Transport (DS0), High Capacity (DS1 and DS3) Services	7.2.9
(1)	
(1)	
(1)	

Any shortfall payments remitted to meet the monthly TRC commitment will be included in the Access Revenue calculat

(2) Wholesale Revenue is the Customer's and its affiliates' recurring billed revenue for associated rate elements, as defined in Table 2 herein, from the Telephone Company or its affiliated telephone companies, in any of the Contract Offers as described in Section 22.90.2 (C) and not included in the

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
		interstate or intrastate access tariff(s). Table 2 UNE OR EQUIVALENT OFFERINGS NOT PURCHASED PURSUANT TO THIS AGREEMENT	

Service Level	Associated Rate Elements Not Included in Interstate Tariff
Voice Grade/DS0	2-wire analog and 2-wire digital loops 2-wire analog and digital transport
DS1/LTI	4-wire digital loop DS1 Entrance Facilities DS1 Interoffice Transport DS1 Cross Connects DS1 Multiplexing All DS1 non-tariffed Committed Information Rate Broadband Services
DS3/LT3	DS3 Loop DS3 Entrance Facilities DS3 Interoffice Transport DS3 Cross Connects DS1/DS3 Multiplexing All DS3 non-tariffed Committed Information Rate Broadband Services
OC-3 OC-12 OC-48	OC-3 Entrance Facilities OC-3 Interoffice Transport OC-3 Cross Connects OC-3 Multiplexing OC-12 Entrance Facility OC-12 Interoffice Transport OC-12 Cross Connects OC-12 Multiplexing

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
		<table><tr><td></td><td>OC-48 Entrance Facilities OC-48 Interoffice Transport OC-48 Cross Connects OC-48 Multiplexing All OCN equivalent non-tariffed Committed Information Rate Broadband Service</td></tr><tr><td>Other Transport Products</td><td>Dark Fiber – Interoffice Dark Fiber – Loop Dark Fiber – Subloop Dark Fiber Cross Connects Unbundled Dedicated Transport</td></tr></table> (3) Services purchased pursuant to a Local Wholesale Complete (LWC) Agreement shall not be included in the calculation of the Customer's Access Service Ratio.	
Contract Offer No. 97 - DS3 Transport Service Offer	22.97.4 Terms and Conditions	(B)(4) Commingling shall be defined as provided in Section 2.6. Commingling of Subject Services under this Contract Offer is prohibited.	Commingling Restriction
Contract Offer No. 99- DS1/DS3 High Capacity Service Offer	22.99.3 Terms and Conditions	(B)(6) The Customer shall convert any existing DS1 and DS3 Unbundled Network Element Loops (UNE-L), DS1 and DS3 Enhanced Extended Links (EELs), and DS1 and DS3 Unbundled Dedicated Transport (UDT) (collectively referred to as "Identified UNEs") to special access Subject Services in the MSAs listed in Section 22.92.2(A) if the Telephone Company has designated such identified UNEs as non-impaired. (B)(16) Commingling, as defined in F.C.C. No 2, Section 2.6, is prohibited.	Non-impaired UNE Conversion Mandate AND Commingling Restriction
Contract Offer No. 102 -	22.102.4 Terms	(B)(4) Commingling shall be defined as provided in Section	Commingling

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
Offer	and Conditions	2.6. Commingling of Subject Services provided under this Contract Offer is prohibited.	Restriction
Contract Offer No. 103-DS3 Interoffice Transport Service Offer	22.103.4 Terms and Conditions	(E) The Customer must convert all existing DS3 Unbundled Network Element (UNE) services to an equivalent Special Access upon subscription to this Contract Offer. (J) Commingling of services, as defined in Section 2.6 of Tariff F.C.C. No. 2, is prohibited.	UNE Conversion Mandate AND Commingling Restriction
Contract Offer No. 106-DS3 Interoffice Transport Service Offer	22.106.4 Terms and Conditions	(E) The Customer must convert thirty-three (33) existing DS3 Unbundled Network Element Loops (UNE-L), DS3 Enhanced Extended Links (EELs), and/or DS3 Unbundled Dedicated Transport (UDT) (collectively referred to as "Identified UNEs") to special access Subject Services, in the MSAs listed in Section 22.106.3(B), if the Telephone Company has designated such identified UNEs as non-impaired. The configuration of the service must remain the same as a result of the conversion. (N) Commingling of services, as defined in Section 2.6 of Tariff F.C.C. No. 2, is prohibited.	Non-impaired UNE Conversion Mandate AND Commingling Restriction
Contract Offer No. 108 - Consolidated Network Offer	22.108.4 Terms and Conditions	(B)(5) Commingling shall be defined as provided in Section 2.6. Commingling of Subject Services provided under this Contract Offer is prohibited.	Commingling Restriction
Contract Offer No. 109	22.109.4 Terms and Conditions	(B)(5) Commingling shall be defined as provided in Section 2.6. Commingling of Subject Services provided under this Contract Offer is prohibited.	Commingling Restriction
Contract Offer No. 111-Wireless Advantage Managed Services Value Incentive Plan (WAM-VIP) Offer	22.111.4 WAMS-VIP Offer Incentive Discounts, Eligibility for WinBack Incentives	(E)(1)(a) The Customer must present reasonable and verifiable information, which includes, but is not limited to circuit detail or coordinated move orders, to demonstrate the service being converted is currently being provided by a carrier other than the Telephone Company or its affiliates; and	Port Services from Competitor Clause

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
		The new Qualified Access Service(s) ordered must have a minimum term period of twelve (12) months for DS1 and DS3 orders, and thirty-six (36) months for SONET services.	
Contract Offer No. 117 - DS3 Interoffice Transport Service Offer	22.117.4 Terms and Conditions	(G) The Customer shall not purchase DS3 Unbundled Network Element Standalone Loops (UNE-L), Enhanced Extended Links (EELs), or Unbundled Dedicated Transport (UDT) (collectively referred to as "Identified UNEs") in the MSAs listed in Section 22.117.3 (B), but instead shall purchase special access Subject Services at the discounted rates pursuant to this Contract Offer. (L) Commingling of services, as defined in Section 2.6 of Tariff F.C.C. 2, is prohibited.	UNE Prohibition AND Commingling Restriction
Contract Offer No. 118 - DS3 Service Offer	22.118.4 Terms and Conditions	(N) Commingling of services, as defined in Section 2.6 of Tariff F.C.C. 2, is prohibited.	Commingling Restriction
Contract Offer No. 121 - Wireless Advantage Managed Services Value Incentive Plan (WAMS-VIP) Offer	22.121.1 General Description	Wireless Advantage Managed Services Value Incentive Plan (WAMS-VIP) Offer (Contract Offer No. 121) is an access discount plan for which subscription is required to the following access tariffs: Ameritech Operating Companies (Ameritech) Tariff F.C.C. No. 2, Southwestern Bell Telephone Company (SWBT) Tariff F.C.C. No. 73, Nevada Bell Telephone Company (NBTC) Tariff F.C.C. No. 1, The Southern New England Telephone Company (SNET) Tariff F.C.C. No. 39 and Pacific Bell Telephone Company (PBTC) Tariff F.C.C. No. 1.	Multiple Region Commitment
Contract Offer No. 123 - DS3 Renewal Offer	22.123.4 Terms and Conditions	(K) Commingling, as defined in Section 2.6 of Tariff F.C.C. 2, is prohibited.	Commingling Restriction
Contract Offer No. 124 - Offer	22.124.4 Terms and Conditions	(O) Commingling, as defined in Section 2.6 of Tariff F.C.C. 2, is prohibited.	Commingling Restriction
Contract Offer No. 128 - DS3 Transport Service	22.128.4 Terms and Conditions	(A)(4) Commingling shall be defined as provided in Section 2.6. Commingling of Subject Services provided under this	Commingling Restriction

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
Offer		Contract Offer is prohibited.	
Contract Offer No. 132 - Network Infrastructure Offer	22.132.4 Terms and Conditions	(B)(5) Commingling shall be defined as provided in Section 2.6. Commingling of Subject Services provided under this Contract Offer is prohibited.	Commingling Restriction
Contract Offer No. 136- Special Access Service Offer	22.136.1 General Description 22.136.3 Terms and Conditions 22.136.6 Incentives	Special Access Service Offer (Contract Offer No. 136) is an access discount pricing plan for which concurrent subscription is required to the following Access Tariffs: Ameritech Operating Companies (Ameritech) Tariff F.C.C. No. 2, Pacific Bell Telephone Company (PBTC) Tariff F.C.C. No. 1, Southwestern Bell Telephone Company (SWBT) Tariff F.C.C. No. 73, and The Southern New England Telephone Company (SNET) Tariff F.C.C. No. 39. (E) Commingling, as defined in Ameritech Tariff F.C.C. No. 2, Section 2.6 of Subject Servicers under this Contract Offer, is prohibited. (B) <u>Conversion of DA1 or DS3 Capacity Loops:</u> During Contract Year 1 of this Contract Offer, Customers subscribed to this Contract Tariff who convert their DS1 or DS3 capacity loops, dedicated transport, or Expanded Extended Loops (EELs) provided by the Telephone Company as unbundled network elements (UNEs) to Special Access Service, the Telephone Company shall multiply the Customer's eligible billed revenue associated with such converted UNEs by 1.50 towards the achievement of the MARC. The converted services in Contract Years 2, 3, 4, and 5 will not receive the billed revenue multiplier towards the achievement of the MARC. The multiplier shall be used only to determine the billed revenue for Contributory Services for purposes of MARC achievement and establishing the new MARC for the following Contract Year, and not for any other	UNE Conversion Incentives AND Multiple Region Commitment

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
		purpose. The Customer shall provide a detailed list of circuits that have been converted to the Telephone Company within thirty (30) days of the end of Contract Year 1 for verification. For example, if the Customer converts $1M in UNEs to Special Access Services during the Contract Year 1, the Customer shall be deemed to have purchased $1,500,000 ($1.50M) in Special Access DS1 Services for purposes of calculating the billed revenue for Contributory Services for achieving the MARC as described in Section 22.136.4. In subsequent years, the converted UNE services would count as $1,000,000 ($1M) towards MARC calculations.	
Contract Offer No. 151 - Renewal Offer	22.151.4 Terms and Conditions	(B)(9) Commingling, as defined in Ameritech F.C.C. Tariff No. 2, Section 2.6, of Subject Services under this Contract Offer is prohibited.	Commingling Restriction
Contract Offer No. 152 - Offer	22.152.4 Terms and Conditions	(B)(5) Commingling shall be defined as provided in Section 2.6. Commingling of Subject Services provided under this Contract Offer is prohibited.	Commingling Restriction
Contract Offer No. 160 - Transport Upgrade Service Offer	22.160.4 Terms and Conditions	(B)(4) Commingling shall be defined as provided in Section 2.6. Commingling of Subject Services provided under this Contract Offer is prohibited.	Commingling Restriction
Contract Offer No. 164 - Special Access Bundle Service Offer	22.164.1 General Description 22.164.4 Terms	Contract Offer No. 164 – Special Access Bundle Service Offer (Contract Offer No. 164) is an access discount pricing plan for which concurrent subscription is required to the following Access Tariffs: Ameritech Operating Companies (Ameritech), Tariff F.C.C. No. 2; Pacific Bell Telephone Company (PBTC), Tariff F.C.C. No. 1; Southwestern Bell Telephone Company (SWBT), Tariff F.C.C. No. 73; and BellSouth Telecommunications, Inc. (BellSouth), Tariff F.C.C. No. 1. (B)(1) Commingling shall be defined as provided in Section	Commingling Restriction AND Multiple Region Commitment

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
	and Conditions	2.6. Commingling of Subject Services under this Contract Offer is prohibited.	
Contract Offer No. 173 - Special Access Bundle Service Offer	22.173.1 General Description 22.173.4 Terms and Conditions	Contract Offer No. 173 – Special Access Bundle Service Offer (Contract Offer No. 173) is an access discount pricing plan for which concurrent subscription is required to the following Access Tariffs: Ameritech Operating Companies (Ameritech) Tariff F.C.C. No. 2, Contract Offer No. 173; Nevada Bell Telephone Company (NBTC) Tariff F.C.C. No. 1, Contract Offer No. 17; and Southwestern Bell Telephone Company (SWBT) Tariff F.C.C. No. 73, Contract Offer No. 148. (B)(1) Commingling shall be defined as provided in Section 2.6. Commingling of Subject Services under this Contract Offer is prohibited.	Commingling Restriction AND Multiple Region Commitment
Contract Offer No. 180 - DS1 and DS3 Service Offer	22.180.1 General Description	DS1 and DS3 Service Offer (Contract Offer No. 180) is an access discount plan for which concurrent subscription is required to the following Access Tariffs: Ameritech Operating Companies (Ameritech) Tariff F.C.C. No. 2, Contract Offer No. 180; Pacific Bell Telephone Company (PBTC) Tariff F.C.C. No. 1, Contract Offer No. 141; The Southern New England Telephone (SNET) Tariff F.C.C. No. 39, Contract Offer No. 37; Southwestern Bell Telephone Company (SWBT) Tariff F.C.C. No. 73, Contract Offer No. 154; and BellSouth Telecommunications, Inc. (BellSouth) Tariff F.C.C. No. 1, Contract Offer No. 54.	Multiple Region Commitment
Contract Offer No. 181 - Special Access Service Offer	22.181.1 General Description	Special Access Service Offer (Contract Offer No. 181) is an access discount pricing plan for which concurrent subscription is required to the following Access Tariffs: Southwestern Bell Telephone Company (SWBT) Tariff F.C.C No. 73, Section 41, Contract Offer No. 155, and BellSouth	Multiple Region Commitment AND Commingling Restriction

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
		Telecommunications Inc. (BellSouth) Tariff F.C.C. No. 1, Section 25, Contract Offer No. 55.	
	22.181.4 Terms and Conditions	(E) Commingling shall be as defined in Ameritech Tariff F.C.C. No. 2, Section 2.6. Commingling of Subject Services provided under this Contract Offer is prohibited.	
Contract Offer No. 183 - Special Access Service Offer	22.183.1 General Description	Special Access Service Offer (Contract Offer No. 183) is an access discount pricing plan for which concurrent subscription is required to the following Access Tariffs: Ameritech Operating Companies (Ameritech) Tariff F.C.C. No. 2, Pacific Bell Telephone Company (PBTC) Tariff F.C.C. No. 1, Southwestern Bell Telephone Company (SWBT) Tariff F.C.C. No. 73, and The Southern New England Telephone Company (SNET) Tariff F.C.C. No. 39.	Multiple Region Commitment AND Commingling Restriction AND UNE Conversion Incentives
	22.183.4 Terms and Conditions	(B)(5) Commingling, as defined in Ameritech Tariff F.C.C. No. 2, Section 2.6 of Subject Services under this Contract Offer, is prohibited.	
	22.183.7 Conversion of Existing and UNE Services	(A) The Telephone Company will waive installation non-recurring charges (NRCs) associated with the conversion of UNEs or existing special access services to Subject Services purchased pursuant to this Contract Offer, except for Access Order charges. In addition, the Telephone Company will waive NRCs associated with the conversion of existing UNE circuits which are converted to Special Access Services under the terms of this Contract Offer.	
Contract Offer No. 184 - DS3 IOF Transport Bundle Service Offer	22.184.3 Terms and Conditions	(A)(6) Commingling shall be defined as provided in Section 2.6. Commingling of Subject Services provided under this Contract Offer is prohibited.	Commingling Restriction

AT&T (Ameritech) Access Tariff Provisions			
Tariff F.C.C. No. 2 22. Pricing Flexibility Contract Offers			
ILEC Tariff	***Section***	***Text***	***Type***
Contract Offer No. 185 - Special Access Service Offer	22.185.1 General Description	The Special Access Service Offer (Contract Offer No. 185) is a plan for which concurrent subscription is required to this Contract Offer and the following additional contract offers: Nevada Bell Telephone Company (NBTC) Tariff F.C.C. No. 1, Contract Offer No. 21; Pacific Bell Telephone Company (PBTC) Tariff F.C.C. No. 1, Contract Offer No. 149; The Southern New England Telephone (SNET) Tariff F.C.C. No. 39, Contract Offer No. 43; Southwestern Bell Telephone Company (SWBT) Tariff F.C.C. No. 73, Contract Offer No. 162; and BellSouth Telecommunications, Inc. (BellSouth) Tariff F.C.C. No. 1, Contract Offer No. 62 (the "Concurrently Subscribed Contract Offers").	Multiple Region Commitment